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ABSTRACT

Statistical information dealing with the employment
of scientists and engineers with master's degrees is provided within
this report. Findings are summarized of a research effort aimed at
developing estimates of the size of the population with master's
degrees in science and engineering fields by sex and field for the
period 1960-1978. Also included within the report is a description of
the methods and data used to develop these estimates. (CS)

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the stock of science and engineering master's degree- holders in the united states

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foreword

An important objective of the National Science Foundation (NSF) is to develop timely information to illuminate issues and trends that are (or may become) the object of policy decisions. In recent years employment of scientists and engineers with master's degrees has been growing at rates that exceed employment of those with bachelor's degrees as well as those with doctorates. The growing importance of master's degree holders in the labor market for scientists and engineers has increased the need for detailed information about their supply and utilization. This report represents an initial attempt to provide such information. It summarizes the findings of a research effort aimed at developing estimates of the size of the population with master's degrees in science and engineering (S/E) fields by sex and field for the period 1960-78. This population is an important component on the supply side of the labor market for scientists and engineers.

The research approach used to develop these estimates uses a variant of the cohort survival techniques used to track the processes of population change. Because these population estimates are newly developed, a major part of this report is devoted to describing the methods and data used in developing them.

Charles E. Falk, Director
Division of Science Resources Studies
Directorate for Scientific, Technological,
and International Affairs

December 1980

acknowledgments

This study was planned and executed by Neil S. Dumas of the Scientific and Technical Personnel Studies Section (STPSS), Division of Science Resources Studies (SRS), National Science Foundation.

Supervision, review, and guidance were provided by Alan Fechter, Head, STPSS, and Charles E. Falk, Director, SRS.

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highlights

The estimated 1978 U.S. population with science and/or engineering (S/E) master's degrees is about 690,000 — roughly quadruple the 1960 estimate and roughly one-fourth of the total 1978 S/E population. Of this 1978 population, slightly more than two-thirds had science degrees, a share that has remained essentially unchanged since 1960.

The dominant determinant of population change was the production of new degrees, which ranged on average from 10 percent of the master's population per year for "other physical sciences" to 17 percent per year for computer sciences and psychology. In contrast, the average rate of attrition (from death, aging beyond 70, and movement to another degree category) ranged from a mere 2 percent in computer sciences and chemistry to 8 percent in agricultural sciences.

During the 1955-70 period, demographic factors explained over one-third of the growth in master's degree production in all fields. These factors explained almost two-thirds of the 1970-78 growth in master's degree production. Nondemographic factors reflect increased continuation rates from high school to undergraduate college degrees and from undergraduate college degrees to master's degrees.

- The female share of the S/E master's population has risen from about 16 percent in 1960 to 21 percent in 1978. This increase resulted almost entirely from an increase in the number of women with master's degrees in science as opposed to engineering. In 1978, women comprised about 29 percent of the science population but less than 3 percent of the engineering population.
- The number of females with master's degrees in science has increased by more than fivefold between 1960 and 1978 (compared to the more than fourfold increase in the total for both sexes combined). In general, these increases were most dramatic in fields that initially had below-average shares. With the exception of social sciences, fields that were above the average initially registered small or no increases.
- The number of master's degrees conferred annually in the United States in all fields grew almost eightfold between 1948 and 1978 — a relative rate of growth of about 7 percent per annum. A slower relative growth in the production of new master's degrees in S/E fields has reduced the share of science degrees from 22 percent in 1948 to 9 percent in 1978 and has reduced the share of engineering degrees from about 9 percent to about 5 percent.
- The growth rates in master's degrees conferred in science fields for women consistently exceed those for men. Although this experience is not unique to science, women seem to be preparing to make significant increases in their participation in the fields of computer, agricultural, and "other" physical sciences where their growth rates were roughly three times those of males.
- Although the growth rate of master's-degree production for women in engineering substantially exceeds that of men (8 percent per year vs. 5 percent), women have not significantly increased their share of the population in engineering fields, which remains at less than 1 percent, because they started from such a low base. Only 5 percent of the engineering degrees granted in 1978 were awarded to women (compared with 34 percent in science fields and 26 percent in all fields). The female share of master's-degree production is lowest in the larger fields of engineering — electrical and mechanical, where only 3.8 percent and 2.8 percent of the degrees granted, respectively, were awarded to women.

section I.

introduction

Society has a significant stake in the efficient utilization of holders of science and/or engineering (S/E) master's degrees; i.e., "master's."¹ These degree-holders are a vital part of the Nation's human resources and represent a substantial investment, both personal and societal (through policies that provide subsidies to graduate education). In addition, substantial opportunity costs are borne by both the individual and society in the form of foregone contributions that these postgraduates might have made had they not attended graduate school. It is important to have adequate information on both the supply and the utilization of this significant resource. Consequently, the study sum-

marized in this report had as its goal the estimation of the size and characteristics (i.e., sex, educational specialty, etc.) of the stock of S/E master's degree-holders for the period 1960-78. As such it contributes to the first dimensions of a data base which can support intensive supply and labor market analysis. It also presents new data on mortality rates, rates of earning advanced degrees adjusted by sex, discipline, and decade, etc., which were calculated especially for this study.

The approach used to develop these estimates employs a variant of the cohort survival techniques used to track the processes of population change. Annual stock estimates are developed by cumulating past annual production of new S/E master's degrees and adjusting for attrition arising from such factors as death and acquisition of further degrees. Since annual production of new S/E master's

degrees is an important statistical component in the stock estimates developed, a portion of the methodological section is devoted to its analysis as well as such issues as mortality rates for college-educated persons.

Section II provides an overview of the study results as well as a description of trends and characteristics of the stocks of individuals with S/E master's degrees. This is followed by an analysis of trends in earned master's degrees conferred in S/E fields. An explanation of the methodology can be found in section III. Detailed statistics describing the S/E earned master's degrees conferred (1930-78) as well as the S/E master's degree population (1960-78) can be found in the tables in section IV. Lastly, the appendixes contain all additional data used to develop the S/E master's-degree stock estimates which are the main product of this study.

¹Hereafter, the term master's will be used to indicate individuals whose highest academic degree is the master's. Unfortunately, there has not been a uniform definition or set of requirements for a master's degree either over time, among schools, or among disciplines.

section II.

master's degrees: population and new degree production estimates

population estimates

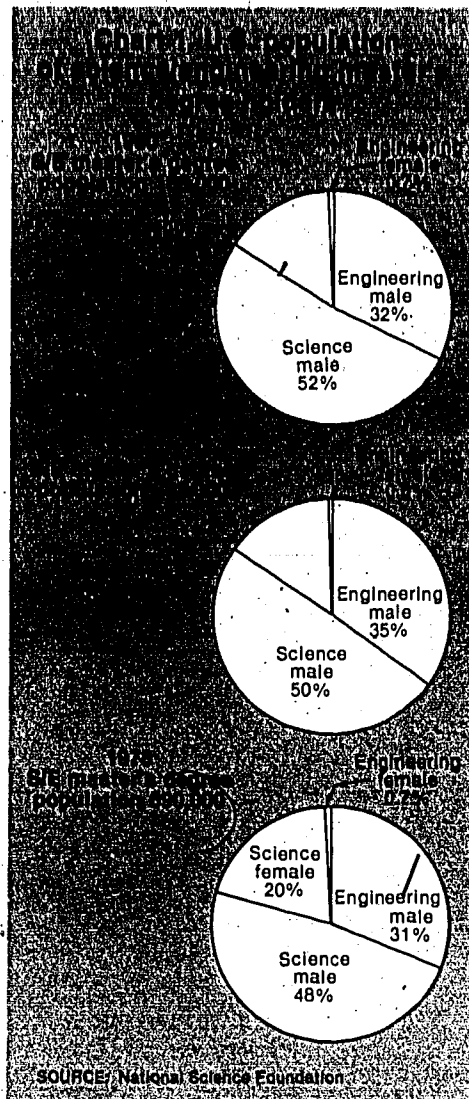
science and engineering degrees

The estimated 1978 U.S. population with S/E master's degrees is about 690,000, roughly quadruple the 1960 estimate. Of this 1978 number, slightly more than two-thirds had science degrees, a share that has remained essentially unchanged since 1960 (chart 1).

The female share of the S/E master's population has risen slightly from about 16 percent in 1960 to 21 percent in 1978. This increase resulted almost entirely from the increase in the number of women with master's degrees in science as opposed to engineering. In 1978, women comprised about 28 percent of the science population but less than 2 percent of the engineering population.

science degrees by discipline

Chart 2 displays trends in the population with master's degrees in science by



field for the 1960-78 period. This chart reveals that there have been no dramatic alterations in those growth rates within most of the fields of science during this period.² Notable exceptions include the field of mathematics and statistics, in which the annual growth rate declined to about 4 percent in the seventies (in comparison to the 9-percent average annual growth rate observed for the entire 1960-78 period), and the field of agricultural sciences, in which the average annual growth rate increased from about 1 percent in the sixties to 6.5 percent for the period 1970-78.

The population with master's degrees in psychology grew at average annual rates in excess of 10 percent over the 1960-78 period and increased its share of the science master's population from 11 percent to 18 percent (table 1 and chart 2).

From available data the population with master's degrees in computer science also seems to have grown at a very fast rate. This rapid growth should be treated with caution, however, since it is probably biased upward as a result of various operational definitions. The bias results from an understatement of the true population with master's

²Since chart 2 is presented in semilogarithmic scale, the slope of the trend lines represent relative rates of change.

degrees in computer sciences arising from the inability to identify degree recipients prior to 1960. It was not possible to gauge the magnitude of the bias, but it will diminish over time as the proportion of the master's population who received degrees prior to 1960 declines.

science degrees by sex

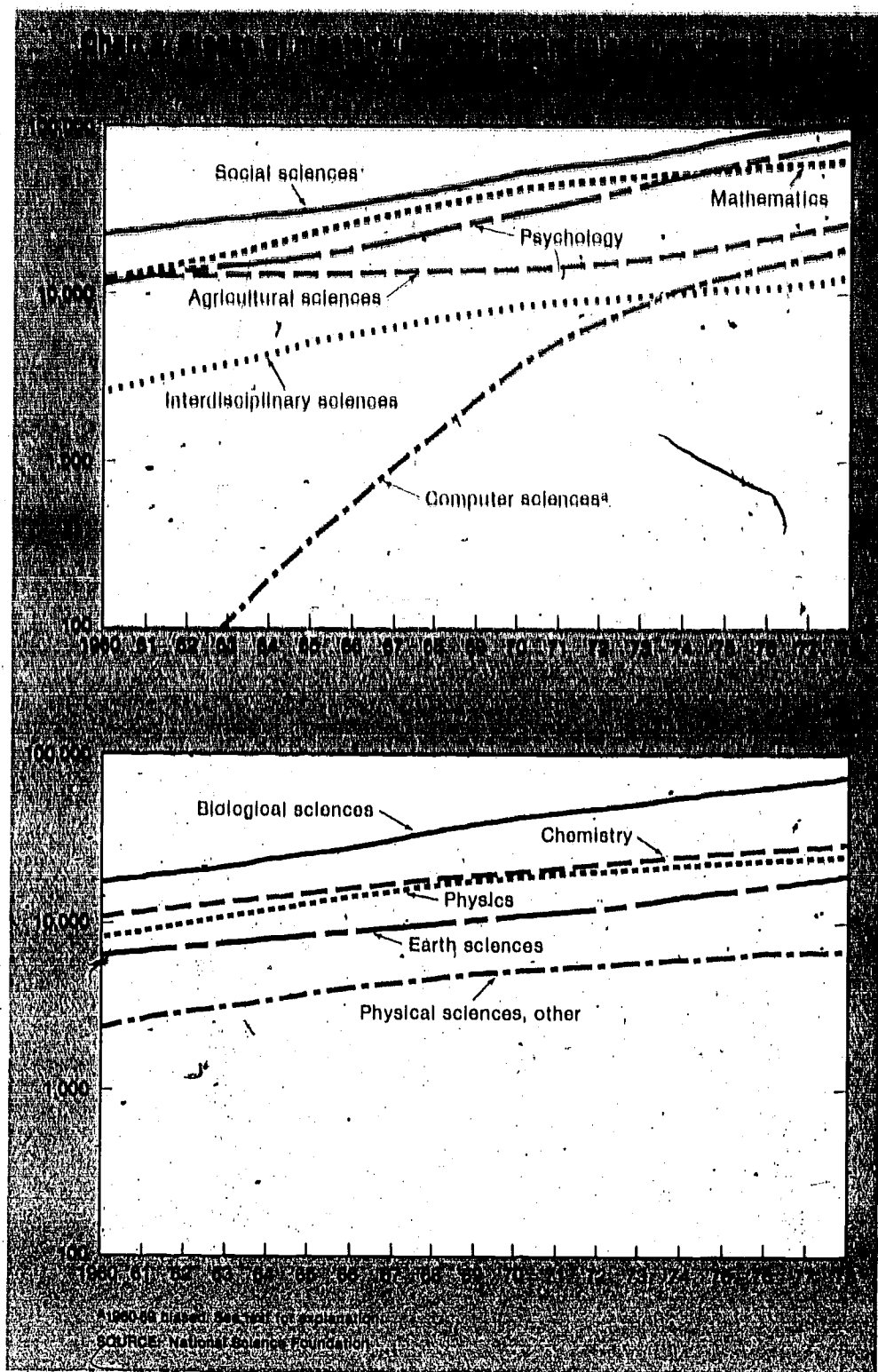
Table 2 summarizes the sex distribution of science master's degree-holders by field for the years 1960 and 1978. The number of females has increased by more than fivefold (compared to the more than fourfold increase in the total for both sexes combined). In general, those increases were most dramatic in fields that initially had below-average shares. With the exception of social sciences, fields that were above the average initially registered small or no increases. The increases are consistent with a more general trend toward increased female participation observed recently among scientists and engineers.³

engineering degrees by discipline

In 1978 the United States had an estimated population with master's degrees in engineering of about 220,000 — an increase of about 155,000 since 1960 (table 3).

The annual rate of increase averaged almost 9 percent during the entire 1960-78 period, but has tapered off to about 5.5 percent since 1970. Differences in growth rates were also observed among individual engineering fields (chart 3). The group of engineering master's holders classified as "other" (i.e., nuclear, biological/biomedical, textile, engineering physics and mechanics, and general) grew at a rate of 12 percent per year and increased their share of the engineering master's population from 9 percent in 1960 to 20 percent in 1978. Chemical engineers, however, who constituted 18 percent of this engineering

³National Science Foundation, *Science and Engineering Personnel: A National Overview* (NSF 80-316) (Washington, D.C.: Supt. of Documents, U. S. Government Printing Office, 1980).



population in 1960, grew at a rate of only 5 percent per year between 1961 and 1978, and represented only 11 percent of this population in 1978. Similarly, mechanical engineers grew at below-average rates and the share of the engineering master's population accounted for by this field fell from 25 percent in 1960 to 20 percent in 1978. Electrical and mining engineers with master's degrees grew at about average

rates and maintained their shares at about 26 percent and 2 percent, respectively.

engineering degrees by sex

It is striking that so few women are holders of engineering master's degrees

Table 1. Distribution of science master's degree-holders by field of degree

Field	1960		1978	
	Number	Percent	Number	Percent
Total, all science fields	114,000	101	471,000	100
Social sciences	24,000	21	102,000	22
Psychology	13,000	11	88,000	18
Biological sciences	18,000	16	76,000	16
Mathematics and statistics	13,000	11	63,000	13
Chemical sciences	12,000	11	30,000	6
Agricultural sciences	14,000	12	27,000	6
Physics	8,000	7	26,000	6
Computer and information sciences	—	—	20,000	4
Earth sciences	7,000	6	19,000	4
Interdisciplinary sciences	3,000	3	13,000	3
Physical sciences, other	2,000	2	7,000	2

Note: Detail may not add to totals because of rounding.

SOURCE: National Science Foundation

Table 3. Distribution of engineering master's degree-holders by field of degree

Field	1960		1978	
	Number	Percent	Number	Percent
Total, all engineering fields	55,000	100	220,000	100
Electrical/electronics	14,000	26	58,000	27
Other	6,000	11	44,000	20
Mechanical engineering	13,000	25	44,000	20
Civil engineering	10,000	18	44,000	20
Chemical engineering	10,000	18	24,000	11
Mining engineering	1,000	2	4,000	2

Note: Detail may not add to totals because of rounding.

SOURCE: National Science Foundation

Table 2. Female share of science master's degree-holders

Field	[Percent]	
	1960 women	1978 women
Total, science master's stock	17	28
Psychology	48	48
Biological sciences	33	35
Mathematics and statistics	26	31
Chemistry	23	25
Social sciences	21	26
Interdisciplinary sciences	17	19
Physical sciences (other)	15	17
Computer and information sciences	NA	13
Earth sciences	4	11
Agricultural sciences	2	10
Physics	8	9

Note: NA — not available.

SOURCE: National Science Foundation

Table 4. Female share of engineering master's degree-holders: 1978

Field	[Percent]	
	Field	Women
Total		2
Electrical/electronics		1
Other		4
Mechanical		1
Civil		2
Chemical		2
Mining		1

SOURCE: National Science Foundation

able 4). There is evidence from earned degrees data, however, that women may have begun to increase their share of its field. While females were about 2 percent of engineering master's population in 1978, they were 5 percent of the 1978 engineering master's graduating class (chart 4).

If women continue to increase their share of engineering master's degrees produced, then the next decade could produce some dramatic changes. Regardless of what may happen in the future, however, the stock of engineering master's is likely to remain mainly male for at least the rest of this century.

comparison with alternative estimates

Estimates of a population similar to the one covered in this study have been generated for the midseventies by NSF based on data derived from its Scientific and Technical Personnel Characteristics System (STPCS). Unlike the estimates developed by this study, which cover only the population with master's degrees in S/E fields, those generated from the STPCS cover the population who, by NSF criteria, can be classified

as scientists and engineers and who have master's degrees — although these degrees are not necessarily in S/E fields.*

Table 5 compares estimates of the population with master's degrees in science and engineering generated by the cohort-survival estimates with estimates of the population of scientists and engineers with master's degrees generated by NSF's system (STPCS estimates) for the years 1976 and 1978. Given the

*For a discussion of the criteria used to define scientists and engineers, see National Science Foundation, U.S. Scientists and Engineers, 1978 (Detailed Statistical Tables) (NSF 80-304) (Washington, D.C. 1980), p. 7.

Table 5. Comparison of alternative estimates of master's degree-holders

Estimation sources	Science and engineering		Science		Engineering	
	1978	1976	1978	1976	1978	1976
Scientific and technical personnel characteristics system	768	659	493	412	275	247
Cohort-Survival model	690	611	471	411	220	200
Cohort-Survival/STPCS .....	.90	.93	.96	1.00	.80	.81

SOURCE: National Science Foundation

science degrees and differ more for the engineering degrees (where the difference ranges around 20 percent). A plausible explanation for the comparative disparity in results for engineers is that the fraction of engineers with master's degrees in nonscience or nonengineering fields (such as business administration) is larger than the fraction of scientists with such degrees.

new degree production

Since annual new degree production is the dominant determinant of changes in the master's degree population, some effort has been devoted to a closer examination of it in order to enrich our understanding of the dynamics of this population. Although the population estimates cover the period 1960-78, this examination of new degree trends encompasses the years 1948-78 to provide some flavor of what earlier population trends have been.

determinants of population change

Table 6 decomposes the changes in the science master's population that occurred between 1960 and 1978 into two components: those resulting from inflows from new degree production, and those resulting from attrition (outflows). The latter component includes deaths, movements beyond the

upper bound of the age range of the estimates (70 years), and movements to higher level degrees or to master's degrees in other fields. The dominant determinant of population change was the production of new degrees, which ranged on average from 10 percent of the population per year for other physical sciences to 17 percent per year for computer sciences and psychology. In contrast, the average rate of attrition was consistently lower in each field, ranging from a mere 2 percent in computer sciences and chemistry to 8 percent in agricultural sciences. These variations in rates of outflow among fields are chiefly the result of differences in age composition. Fields with older populations experience greater rates of outflow.

Table 7 decomposes comparable average rates of engineering population changes. The findings are similar to those noted above with respect to science population changes.

aggregate degree production

The number of master's degrees conferred annually in the United States in all fields grew almost eightfold between 1948 and 1978 from about 42,000 to 318,000, a relative rate of growth of about 7 percent per annum (chart 5). Compared to master's degrees in all fields, the number of master's degrees conferred annually in science and in engineering each grew less rapidly at an average increase of 5 percent per year. After rising rapidly in the sixties, annual

conceptual difference between the estimates discussed above, it was surprising to find that the cohort-survival estimates for all S/E fields are no more than 10 percent below the STPCS estimates for all scientists and engineers. The two sets of estimates are in closer accord for the

Table 6. Growth dynamics of science master's degree population

[Percent]

Field	Average 1960-78 annual rate of:		
	Inflow ¹	Outflow	Growth in population ²
Average, all science fields	14	6	8
Computer and information sciences (covers period 1977-78 only)	17	2	15
Psychology	17	6	11
Mathematics and statistics	15	5	9
Chemistry	11	6	9
Interdisciplinary sciences	12	3	9
Social sciences	14	5	8
Biological sciences	15	6	8
Physics	13	6	6
Physical sciences (other)	10	4	6
Earth sciences	11	5	6
Agricultural sciences	11	8	3

¹Inflow Rate = average of Earned Degrees (t)/Stock where t ($t-1$) represents a particular year from 1960 through 1978.

²Growth Rate = compound annual rate of growth.

³This percentage has been falling (at least 5 percentage points) rapidly since 1970.

⁴This percentage has been rising (at least 5 percentage points) rapidly since 1970.

SOURCE: National Science Foundation

Table 7. Growth dynamics of engineering master's population

[Percent]

Field	Average 1960-78 annual rate of:		
	Inflow ¹	Outflow	Growth in population ²
Average, all engineering fields	12	4	8
Other	16	4	12
Civil	12	3	8
Electrical/electronics	12	3	8
Mechanical	11	3	7
Mining	10	4	6
Chemical	9	4	5

¹Inflow Rate = average of earned degrees (t)/stock ($t-1$) where t = one year from 1960-1978 inclusive.

²Growth Rate = compound annual rate of growth for 18 years of the stock (1978)/stock (1960)

SOURCE: National Science Foundation

new degree production in both science and engineering has been relatively stable.³ The slower relative growth in the production of new master's degrees in S/E fields has reduced the share of science degrees from 22 percent in 1948 to 9 percent in 1978 and has reduced the share of engineering degrees from about 9 percent to about 5 percent.

³New degree production in the field of chemistry experiences an increase between 1977 and 1978, the latest years for which data are available.

science degree production by field

Chart 6 summarizes growth rates in new science degree production for the period 1948-78. These averages — which indicate that new physical science degrees are growing slowest within science fields — hide a considerable amount of variation in growth rates that occurred within fields during this period (charts 7, 8, and 9).

science degree production by sex

Chart 10 summarizes sex differences in growth rates of new degree production. Reflecting more pervasive patterns, the growth rates for women consistently exceed those for men indicating that women are increasing their share of new degree production in the science fields. Although this experience is not unique to science, women seem to be preparing to make especially deep inroads into the fields of computer, agricultural, and "other" physical sciences, where their growth rates were roughly three times those of males.⁴

engineering degree production by field

Chart 11 summarizes growth rates in new engineering degree production for the period 1948-78. New engineering degrees grew more rapidly than new nonengineering degrees. Within fields of engineering, growth was less rapid in the fields of mechanical, mining, and chemical engineering. Like production of new science degrees, these 1948-78 averages hide a considerable amount of variation in growth rates within fields of engineering. New degree production generally fell from their 1948 levels until the mid-fifties in each engineering field, after which an upward trend has been established, with peaks generally occurring in the 1968-72 period (chart 12).

engineering degree production by sex

Although the average annual rate of growth of new engineering degree production for women substantially exceeds that of men (8 percent per year vs. 5 percent), women have not made dramatic inroads into engineering fields.⁵ Only 5 percent of the engineering

⁴Other physical science fields include physical science fields other than physics and chemistry.

⁵The growth rates for women start from a relatively low base in 1948-84 compared to 3,992 for men, or roughly 2 percent of the new master's degrees awarded in engineering fields.

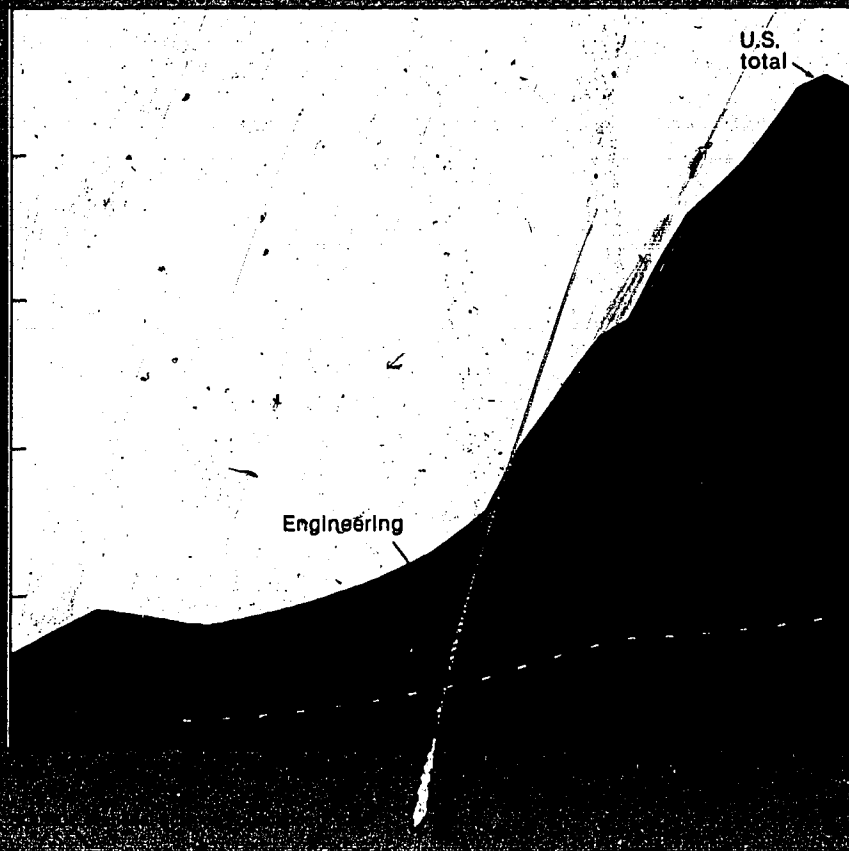
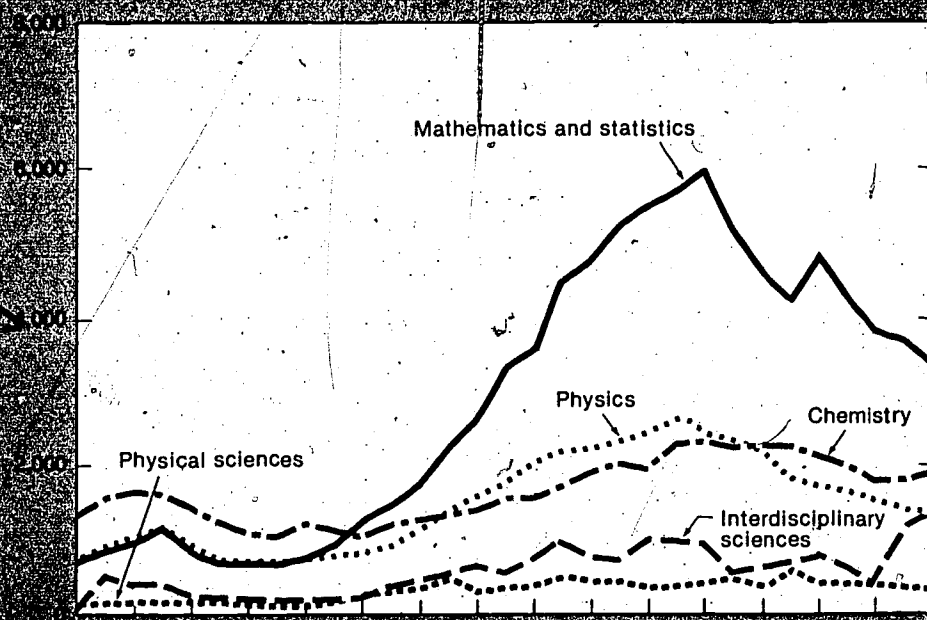


Chart 2: Master's degrees conferred in selected science fields

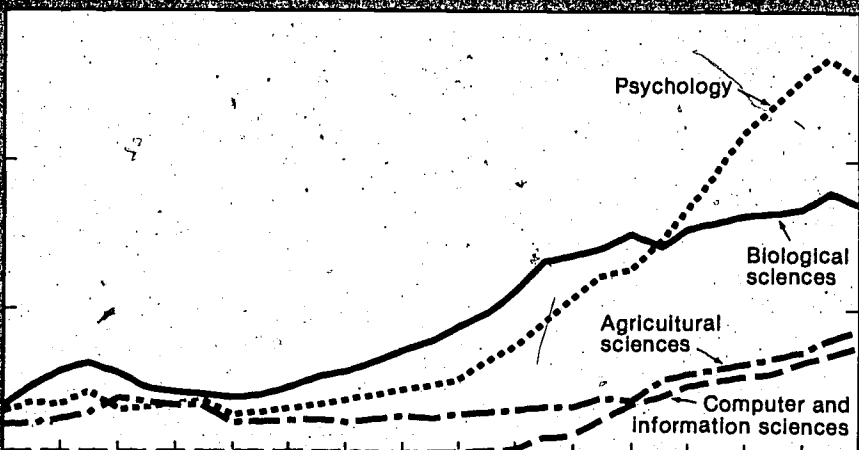
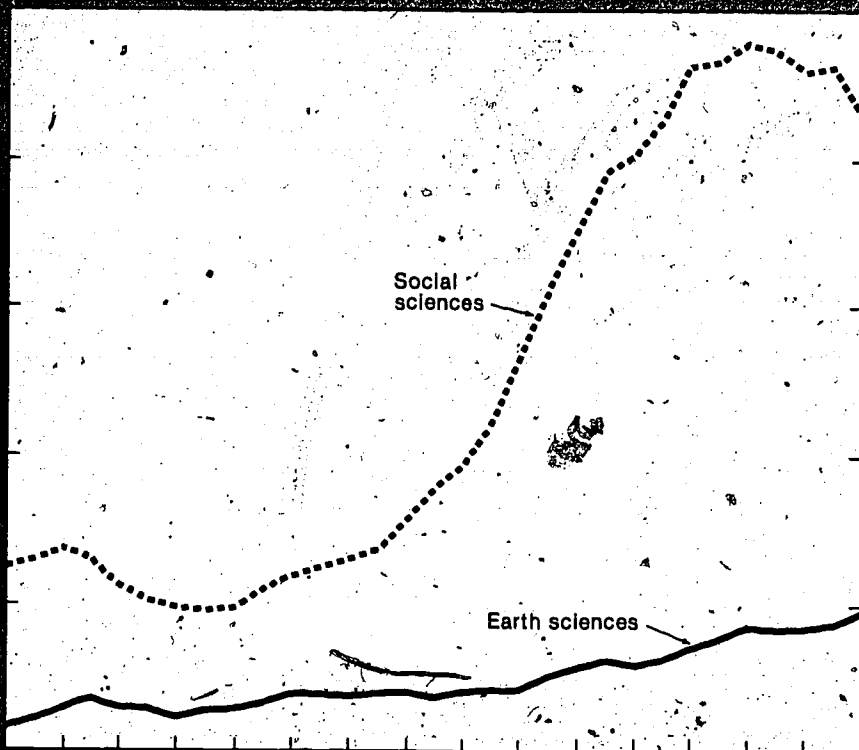


degrees granted in 1978 were awarded to women (compared with 34 percent in science fields and 26 percent in all fields). The rate of female participation is lowest in the larger fields of engineering—electrical and mechanical, where only 3.8 percent and 2.8 percent of the degrees granted, respectively, were awarded to women.

determinants of degree production trends

All Fields

Regardless of field of degree, the number of new master's degrees produced



n any given year can be defined as the product of two variables: (1) the population from which these degrees are derived, and (2) the fraction of that population who acquire master's degrees. Accordingly, relative changes in the number of new master's degrees produced will be approximately equal to

the sum of relative changes in these two variables.⁹ In this section, an attempt is made to estimate the relative impor-

⁹This approximation assumes either that relative changes in demographic factors are independent of relative changes in nondemographic factors or, if not, that the interaction effects are small enough to be ignored.

tance of demographic changes, and non-demographic changes in determining observed changes in the annual new production of master's degrees.

Changes in new master's-degree production in all fields are summarized in table 8 for two periods selected for analysis along with relative changes in the number of high school graduates lagged six years and the ratio of new degrees to these graduates. During the period 1955-70, demographic factors (reflected in the number of high-school graduates) explained over one-third of this growth.⁹ Nondemographic factors reflect in continuation rates from high school to undergraduate college degrees and from undergraduate college degrees to master's degrees. They are affected by economic variables, such as the benefits and costs of further education and training, and noneconomic factors, such as the status, prestige, and type of work activity involved in careers requiring further education and training.

The relative importance of demographic and nondemographic factors in determining the growth of master's degrees changed dramatically in the 1970-78 periods. Growth rates in degree production had slowed considerably from the 1955-70 period, and demographic factors accounted for almost two-thirds of the 50 percent growth that occurred in annual production of new master's degrees during this period.¹⁰ The relative decline in the contribution of nondemographic factors to growth in production of new master's degrees suggests that economic and noneconomic factors provided substantially less incentive to high school graduates to continue their education to complete bachelor's and/or master's degrees in the seventies than they did in the period 1955-70. Table 9 sheds some light on the extent to which this phenomenon is occurring at the college and at graduate school levels.

Trends in the rate of master's degree production that can be attributed to nondemographic factors can be decom-

¹⁰The growth in the number of high school graduates can also be analyzed in terms of demographic and nondemographic factors. Using the 18- to 19-year-old population as an indicator of demographic factors, about 30 percent of the growth in high school graduates for this period can be attributed to demographic factors.

¹¹The average annual growth rate for the 1955-70 period was 17 percent per year; the comparable growth rate for the 1970-78 period was 6 percent.

posed into trends in continuation rates from high school graduate to bachelor's degrees and from bachelor's degrees to master's degrees, respectively." The data summarized in table 9 reveal that the relatively larger amount of nondemographically determined growth in new degree production from 1955 to 1970 was mainly the result of an increase in the rate of continuation from bachelor's degrees to master's degrees. In contrast, the relatively smaller amount of nondemographically determined growth in

Table 8. Growth rate determinants in the production of new master's degrees in all fields

Year	Percentage change in:		
	Master, all field (1)	Demographic factors ¹ (2)	Nondemographic factors ² (3)
1955-70	+ 260	+ 92	+ 16
1970-78	+ 50	+ 32	+ 18

¹Defined as the percentage change in the number of high school graduates lagged six years.

²Approximated by the difference between columns (1) and (2).

SOURCE: National Science Foundation

new degree production that occurred from 1970 to 1978 was largely the result of an increase in the rate of continuation from high school graduation to bachelor's degrees; i.e., the master's, as a terminal degree, became less attractive.

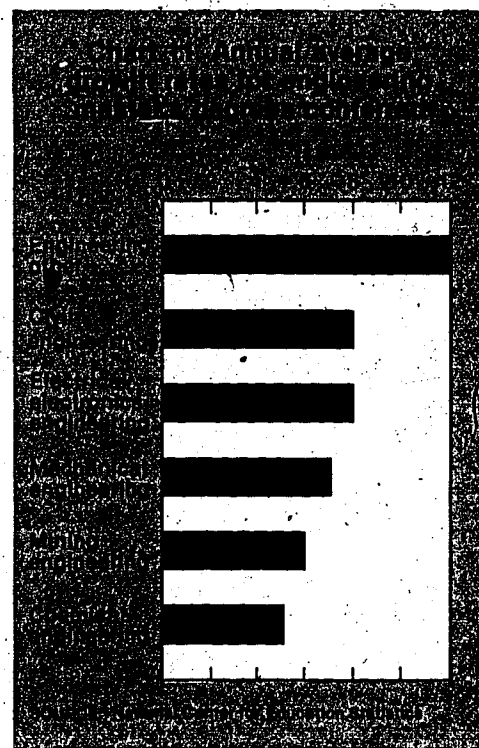
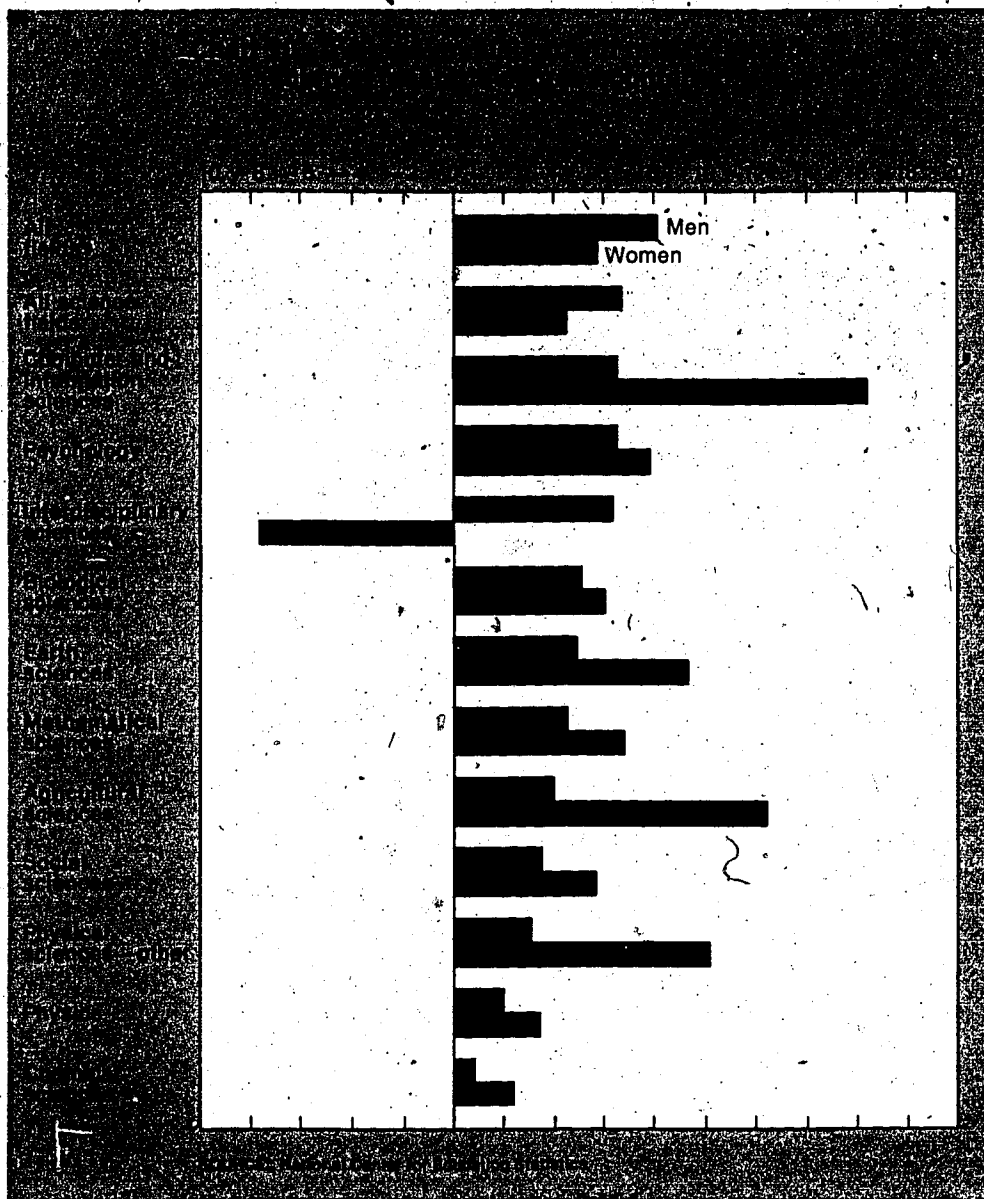
Table 9. Analysis of nondemographic factors associated with trends in the production of new master's degrees, selected years

Year	Continuation rates from:	
	High school graduation to bachelor's degrees ¹	Bachelor's degrees to master's degrees ²
1955 ...	0.26	0.19
1970 ...	.28	.33
1978 ...	.31	.33

¹Continuation rate is the number of bachelor's degrees lagged two years per high school graduate lagged six years.

²Continuation rate is the number of master's degrees per bachelor's degree lagged two years.

SOURCE: National Science Foundation



specific fields

Trends in the production of new science degrees can also be analyzed by decomposing their determinants into two other components: (1) that which results from general factors affecting new degree production in all fields and (2) that which results from specific factors relevant to new degree production in a given field. Given degree production in all fields, factors relevant to explaining trends in new degree production in a given field are reflected in trends in the share of total degrees that are awarded in that field.

science fields. Table 10 contains estimates of the share by science field for the years 1965, 1970, and 1978. Between 1955 and 1970 increasing shares were noted in all but four science fields, with decreases principally in the physical sciences.¹² This suggests that career opportunities became relatively more attractive for master's degree-holders in the former fields over this period of time and that these opportunities became relatively less attractive for master's degree-holders in the latter fields. In more recent years (i.e., 1970 to 1978) decreasing shares were observed in about one-half of the science fields.

engineering fields. Table 11 summarizes these shares by engineering field for the years 1955, 1970, and 1978. Decreasing shares are found in almost all fields for each of the two time periods, 1955-70 and 1970-78. Notable exceptions to these findings include "other" engineering fields, where an increasing share was noted for the 1955-78 period, and mining engineering where the share remained relatively stable for the 1970-78 period.

¹²These 1955-70 changes in shares do not necessarily reflect stable long-run trends. Many fields experienced a change in trends during this period. For example, although the shares for the biological sciences fell during this period, this decline represented the net effect of an increasing trend from 1955 to 1965 followed by a decreasing trend from 1965 to 1970.

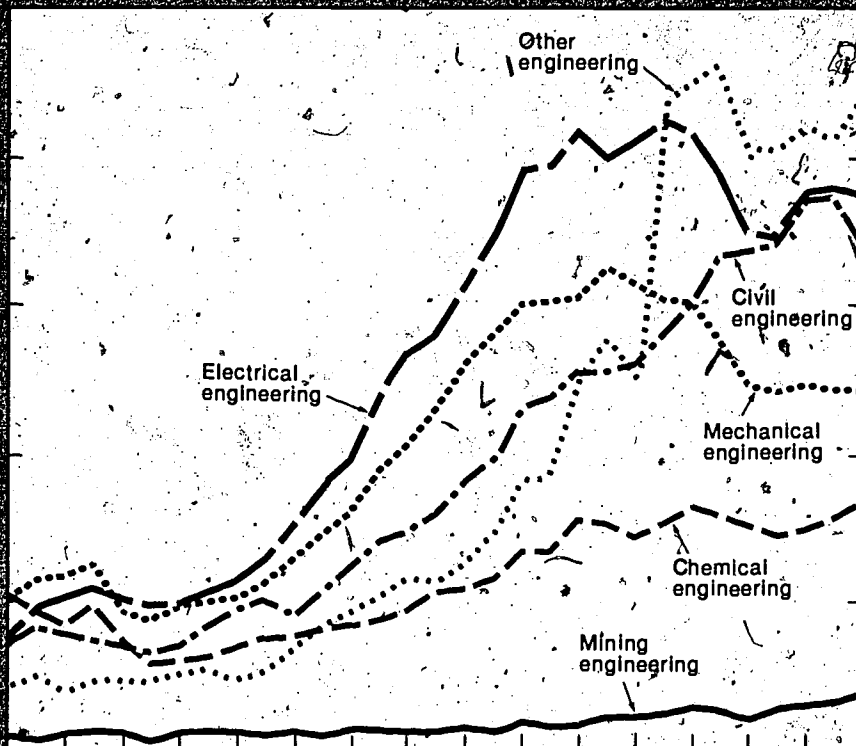


Table 10. Share of master's degree production in science fields

Field of science	Share of total master's degrees awarded in:		
	1955	1970	1978
Agricultural sciences	1.41	0.71	1.11
Biological sciences	2.78	2.90	2.19
Computer and information sciences	NA	.74	.97
Chemistry	2.08	1.09	.61
Earth sciences . . . . .	.99	.57	.62
Interdisciplinary sciences . . . . .	.20	.45	.43
Mathematical sciences	1.31	2.86	1.08
Physics	1.31	1.16	.44
Other physical sciences . . . . .	.12	.19	.11
Psychology	2.46	2.48	3.30
Social sciences	3.39	3.87	2.76

¹Per 100 master's degrees awarded in all fields.

Note: NA — not available.

SOURCES: National Center for Education Statistics and the National Science Foundation

Table 11. Share of total master's degrees awarded in engineering fields

Field of engineering	Shares of total master's degrees in		
	1955	1970	1978
Civil	1.46	1.26	1.08
Chemical	1.09	.69	.55
Electrical/electronics	1.85	1.98	1.20
Other . . . . .	.95	1.21	1.42
Mechanical	1.73	1.50	.78
Mining . . . . .	.20	.09	.12

¹Per 100 degrees granted in all fields.

SOURCES: National Center for Education Statistics and the National Science Foundation

methodology

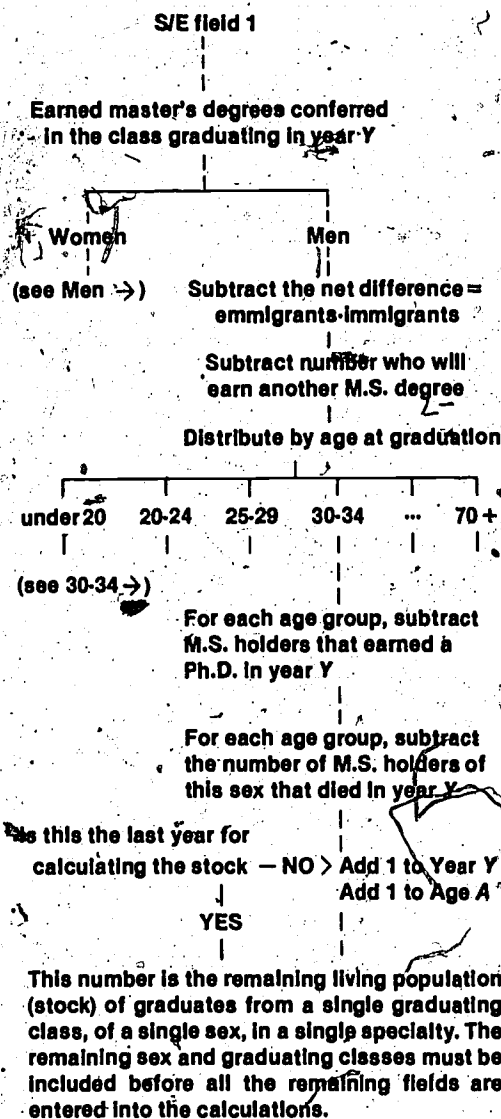
calculating the stock of s/e master's degree recipients

In its simplest form, the stock of living S/E master's degree recipients remaining in some year Y from an earlier set of graduating classes equals the number in year Y-1 minus those who: (a) have died; (b) exceed 70 years of age; (c) have earned a higher degree; (d) have earned another degree at the same level (i.e., changed fields); or, (e) the net difference between those who emigrated from, and those who have immigrated to, the United States. Such computations were undertaken for men and women within each academic field and for each graduating class, taking into account the fact that the degree recipients are neither all of the same age nor evenly distributed across some set of age groups.

This recursive model is summarized in the adjacent flowchart.

defining the earned degrees conferred in science and engineering

As shown above, to estimate the number of living persons (i.e., the stock) who



hold a master's degree in a particular academic field, it is first necessary to know how many of these earned degrees were conferred. The National Center for Education Statistics (NCES) is currently charged with collecting and reporting these data. It is the successor to a num-

ber of other Federal organizations that were similarly charged in the past. A history of the HEGIS (Higher Education General Information System) was developed by Adkins,¹³ who has constructed a consistently disaggregated series of academic degree conferral data from the original Federal statistics. These data were aggregated by degree level and sex, however, and not disaggregated by fine fields for the period 1870-1947. It was not until 1920 for doctoral degrees and 1948 for bachelor's and master's degrees that data disaggregated by academic specialty became available. Data for the period 1930-47, therefore, had to be "created" by fitting models to the post-1947 data and adjusting the equations to match the biennial (even years only) aggregated data collected during the earlier period in question.

For the purposes of this investigation, restricted to master's degrees in science and engineering, Adkins' data on earned degrees for the period 1930-47 were used because the original Federal Government data for this period were only collected biennially and were not disaggregated by field.

For the period 1948-78 (the latest year available to NSF), it was determined that the official NCES data would be employed using consultation of that organization¹⁴ to cope with definitional changes that occurred over the years. The major problem since 1948 has been the evolution of new academic specialties which began as part of some existing field and only appeared in the degree

¹³Douglas L. Adkins, *The Greatest American Degree Machine*, pp. 7-19 (Berkeley, Calif.: Carnegie Commission on Higher Education, 1975).

¹⁴Personal communications with Leo Eiden, National Center for Education Statistics, 1979.

conferral data after some numerical threshold had been exceeded.

For example, prior to the advent of computer science as an identifiable specialty, people who taught in this area did so in university departments like mathematics and engineering. It would be difficult even to specify the basis upon which to determine the field of the last person who majored in computer science before it became an identifiable (by NCES) discipline. NCES must choose the optimum moment to enlarge, contract, or otherwise alter their system of data collection. Clearly, it would be uneconomic to add new specialties to a list of degree fields until they become regularized, recognized, and widespread. The net result is that there is a transition period reflected in the NCES data where, for example, the computer science departments are forced to encode their degrees in some other field until such time as their specialty appears as one of the options. This causes spurious trends and discontinuities to occur in the data in which one can see the growth of some vaguely defined specialties like "physical sciences, n.e.c." rise and fall, and some new field that is instantaneously producing a hundred graduates.

One final subtlety in compiling this data set on master's degree production is the matter of the geographic definition used by the HEGIS system. Unfortunately, the boundaries of the United States have not been permanent over the period analyzed in this study. As a result, NCES and its predecessors have used varying definitions to construct their data tables. Such definitions may include all or some of the following: The continental States, Alaska, Hawaii, District of Columbia, American Samoa, Guam, Puerto Rico, Trust Territory of the Pacific, Virgin Islands, and the Canal Zone. In fact, even as this is being written (October 1979), the sovereignty of the Canal Zone is undergoing a major change and, no doubt, the earned degrees conferred in this location will no longer be counted by NCES after 1979. In this study, the widest possible geographic definition was always chosen where a choice was possible.

Appendix A displays the current NCES taxonomy and Adkins' arrangement as well as the NSF field definitions used in this study.

Table 12. Estimates of the proportion of science/engineering master's-degree recipients who were not emigrating foreign citizens

Field	1930-59	1960-78
Mathematics and statistics	97.3	97.0
Computer and information sciences	96.8	96.6
Physical sciences, all	97.3	97.1
Chemical sciences	98.4	97.7
Earth sciences	96.2	96.5
Physics	97.8	97.6
Physical sciences, n.e.c.	96.6	96.7
Engineering, all	96.5	96.5
Chemical/materials engineering	97.3	97.0
Civil and other heavy engineering	96.2	96.3
Electrical/electronic engineering	96.6	96.6
Geological/mining engineering	96.2	96.4
Mechanical/equipment engineering	96.2	96.3
Engineering, n.e.c.	96.2	96.3
Biological sciences	97.1	96.6
Agricultural sciences	94.8	94.2
Social sciences	97.5	96.9
Psychology	99.0	98.9
Interdisciplinary	99.9	99.9

SOURCE: Douglas L. Adkins, *The Great American Degree Machine*, table 3-3, pps. 28-29. Berkeley, Calif.: Carnegie Commission on Higher Education, 1975.

accounting for immigrants and emigrants

Net changes in the population (stock) of master's in the American labor market can also occur because of the inflow and outflow of persons to and from the United States. The difficulties involved in calculating the number of American emigrants appeared to outweigh the insignificant change it was likely to make in any specialty field. Thus, the estimates are only adjusted for foreign citizens who either: (a) earned their degrees in the United States and subsequently left the country, or, (b) earned their degrees outside the United States and became immigrants. The number estimated for this study is the difference between the two, i.e., immigrants minus foreign citizens

with degrees from the United States who leave.

Table 12 presents the estimated proportions of degrees produced in each specialty field NOT earned by emigrating, foreign citizens and augmented by a factor to account for permanent immigrants (Adkins). This is one of the data sets which informed opinion tells us has been increasingly important. Since the wave of post-World War II births crested in the late sixties, many graduate schools find themselves with surplus capacity in both physical plant and personnel.¹⁵ One of the methods employed by many institutions to utilize this expensive, idle capacity has been to actively recruit foreign students.¹⁶ Thus, these proportions, which have been fairly stable over the period covered by this study, may begin to decline noticeably in the future.

accounting for second master's degrees

The operative principle in defining a population or stock of S/E master's is that each person who qualifies be counted only once. Therefore, it becomes important to adjust for individuals who already have an S/E master's degree and who earn a second master's degree in any field whatsoever. Since only S/E fields are being studied, first master's degrees in all other fields are ignored. If such individuals should subsequently earn an S/E degree, they would only be counted once as part of their later (i.e., S/E) graduating class.

Individuals who initially earn an S/E master's, however, and who subsequently earn a second non-S/E master's degree are deleted from the stock on the basis that this change of field signified an intent not to work in, or be identified with, science and/or engineering. If these same people earn a second

¹⁵National Research Council/National Academy of Sciences, *Research Excellence Through the Year 2000* (Washington, D.C. 1979).

¹⁶National Science Foundation, *Employment Attributes of Recent Science and Engineering Graduates* (NSF 80-325) (Washington, D.C.: Supt. of Documents, U.S. Government Printing Office, 1981).

master's degree in a different S/E specialty, however, then they should be deleted only from the S/E field of their earlier degree and counted in the field of the later degree. Since all later new master's degrees (i.e., first, second, and other) are automatically included in the NCES reported figures on earned master's degrees conferred in science and engineering, it only becomes necessary to delete all individuals who earn any second master's degree from their earlier field to produce an accurate count. Table 13 presents the proportions of S/E master's-holders who do not earn a second master's degree.

The data for the period 1930-64 were taken from Adkins¹⁷ who based his figure on an NSF-sponsored study conducted by Sharp in 1963.¹⁸ Sharp surveyed graduates in many specialties from the class of 1958.

For the period 1965-78, previously unpublished data from a recent NSF study¹⁹ were especially analyzed for this investigation. Using data collected in 1978, an estimate was made of the proportion of individuals from the classes of 1972 and 1976 who did NOT earn a second master's degree.²⁰ These two estimates were compared and were found consistent in all cases. As a result, the estimates for the classes of 1972 and 1976 were pooled and used as the 1965-78 estimates. It was assumed that the latter part of the sixties was better represented by behaviors of the early seventies than by actions of the late fifties.

age distributions at graduation of s/e master's degree-holders

The primary source of data for estimating the distribution of ages of S/E master's at graduation is the "National Surveys of Recent Science and Engineering Graduates" of the classes of 1972-76,

inclusive. Among the information obtained were birthdate, field, graduation date, and sex. Using these data, an age distribution was calculated for each sex, field, and graduating class combination. These distributions were relatively stable within each field over the period 1972-76, inclusive. Consequently, the data were pooled over time within each sex and field combination.

Using this pooled data, an estimate of the age distribution(s) of S/E master's-degree graduates during the seventies was obtained. Since it would be unreasonable arbitrarily to use these distributions for the previous four decades (1930-69), however, an attempt was made to derive a better characterization of the master's-degree graduates' age distribution(s) for the earlier period (i.e., before 1970).

approximate the distribution for all master's-degree recipients for the period 1930-69.²¹

For males, the seventies' Ph.D. age distribution (at the time they earned their science master's), was similar to the actual master's level data for the same period in all fields. Consequently, the seventies' master's data were used for the seventies' decade age distribution and the Ph.D. age distributions were used for the period 1930-69. (See appendix B for the relevant distributions.) Disaggregated doctoral-level data for males with engineering degrees were not available at the time of this study. Consequently, it was decided that the actual seventies field specific, master's-level age distributions would be used for all decades (i.e., 1930 through the seventies).

For females with science as well as

Table 13. Estimates of the proportion of science/engineering master's-degree recipients who do not earn a second master's degree in any field

Field	Males		Females	
	1930-64	1965-77	1930-64	1965-77
Mathematics and statistics	98.4	92.0	97.5	94.6
Computer and information sciences	98.4	96.5	97.5	95.3
Physical sciences, all	97.0	95.2	97.5	97.4
Chemical sciences	97.0	95.4	97.5	98.5
Physics	97.1	93.0	97.5	97.9
Physical sciences, n.e.c.	96.7	96.4	97.5	99.9
Engineering, all	96.0	93.8	97.5	97.8
Chemical/materials engineering	96.0	96.5	97.5	99.9
Civil and other heavy engineering	96.0	94.8	97.5	97.2
Electrical/electronics engineering	96.0	92.5	97.5	99.9
Geological/mining engineering	96.0	99.1	97.5	99.9
Mechanical/equipment engineering	96.0	93.8	97.5	99.9
Engineering, n.e.c.	96.0	93.2	97.5	99.9
Biological sciences	96.0	98.1	97.5	99.6
Agricultural sciences	99.9	99.6	97.5	99.9
Social sciences	97.0	95.3	97.5	96.5
Psychology	94.0	99.9	97.5	98.6
Interdisciplinary	97.0	94.9	97.5	97.9

SOURCE: Douglas L. Adkins. op. cit., (p. 24) and unpublished 1978 New Entrants Survey Data

For the purposes of this study, it was decided that if there were no remarkable differences during the seventies between the age distribution at receipt of master's of science Ph.D.-holders and the comparable age distribution of individuals whose highest degree was the science master's degree, then the age distribution(s) of similar Ph.D.-holders who received their master's degrees in the fifties and the sixties could be used to

engineering degrees, the Ph.D. distributions were found to be consistently dissimilar from the actual seventies master's data. Consequently, the age distribution for women derived from the

¹⁷Adkins, op. cit., p. 24.

¹⁸Sharp, 1963, table 43, p. 65 and table A-42, p. 258.

¹⁹National Science Foundation, op. cit.

²⁰National Science Foundation, ibid.

²¹The Ph.D. data were secured from the Doctorate Records File maintained for NSF by NAS. The Doctorate Records File is a virtually complete listing of all earned Ph.D.'s since 1956, with some data on the period 1920-56 inclusive.

seventies' master's data was used for all the decades covered by the analysis (i.e., 1930 through the seventies).

mortality and superannuation

rates of advancement to higher degree levels

Using the Doctorate Records File, an attempt was made to estimate the number of Ph.D.'s granted each year to individuals holding S/E master's degrees.²² Upon inspection, however, it was determined that the file's data for the period 1930-56 were unusable. To account for this lack of data for the period, a 2-part decision rule was devised. For the period 1957-78, the assumption was made that the Doctorate Records File is, and continues to be, a complete and exhaustive list of people who have earned their Ph.D.'s in the United States during that period. Thus, for each calculation, the exact number of people who, for example, had a master's degree in mathematics and were 33-years-old when they earned their Ph.D. in 1967 can be found and subtracted from the stock of 33-year-old mathematics master's during that same year. The data can be found in appendix C.

For the period 1930-56, estimates of the number of Ph.D.'s granted to holders of S/E master's degrees were calculated via a series of regression equations. A linear model was fit to the log of 1957-78 National Academy of Sciences (NAS) data using time (in years) as the independent variable. These estimated numbers were then subtracted from the total stock calculations in the appropriate years.

Although master's degrees are earned by people of virtually all ages, sexes, races, etc., a number of simplifying assumptions were required to account for a lack of historical data (e.g., earned degrees data disaggregated by race). Consequently, for the purposes of estimating the effects of mortality and superannuation, the assumption was made that all holders of a master's degrees experience mortality rates similar to white males or females.

mortality

The mortality rates used in this study were calculated for the average white American with a college degree. Use of these rates can be justified for adult mortality among an atypical population (i.e., the college educated). In the first place, differences between white and nonwhite mortality take place principally in childhood and at old age.²³ Secondly, it will be shown that higher levels of education are associated with a substantially lowered rates of mortality, independent of race. Given these findings, it is reasonable to assume that nonwhites who earned S/E master's degrees experience mortality rates nearer to that of the white college graduates than to the nonwhite averages for the total population.

The most comprehensive estimate of mortality rates in the United States are the life tables (Vital Statistics of the United States series) that are routinely prepared by the National Center for Health Statistics (NCHS) which reports death rates for all residents. There is mounting evidence, however, that these rates overestimate deaths among the college educated.

Demographers and actuaries have traditionally assumed that college-educated persons had a lower mortality rate than the less highly educated portion of the population. To test this asser-

tion, Kitagawa and Hauser²⁴ obtained a national sample of all death certificates for the period May through August 1960 and retrieved the demographic files for these individuals from the 1960 Decennial Census. By relating such factors as educational level to the mortality rates calculated from the death certificates they were able to obtain point estimates of the correlation(s) of these variables with early death.

Kitagawa and Hauser's most relevant finding for this study is summarized in table 14. As can be seen, the assumption of a differential mortality rate related to education level is supported. Clearly, the use of unmodified, national mortality tables would result in a serious underestimate of the stock (living population) of S/E master's degrees in the United States. The major issue, therefore, is not whether to modify the national mortality rates but, instead, to determine the "best" modification.²⁵

Thus, a complete revised set of mortality tables, especially produced with the aid of Robert J. Armstrong,²⁶ was used in this study.

Until mortality rates for holders of S/E master's degrees are directly measured, it will be necessary to modify the NCHS national life tables according to some

²²E. Kitagawa and P. Hauser, *Differential Mortality in the U.S.*, p. 12 (Washington, D.C.: Howard University Press, 1973).

²³G.W. Comstock and J.A. Tonascia, "Education & Mortality in Washington County, Maryland," *Journal of Health and Social Behavior*, vol. 18, March 1978, pps. 54-61 reproduced the Kitagawa and Hauser study on a smaller scale. They found that the mortality rate for people with more than a high school education was only about 32 percent of the rate for the total of Washington County, Maryland in 1963. Additional evidence paralleling this conclusion includes data from the State of Utah for the years 1976-78 inclusive. (Personal communication with John E. Brockert, Director, Utah Bureau of Health Statistics, April 11, 1979). Comparing deaths for that part of the population with four or more years of college to the remainder produced a result which suggested that the mortality rate for this better educated group is only about 38 percent of that of the total population for the group 25 years old and older. In the same vein, the mortality experience of the Teachers Insurance & Annuity Association (personal communication, Michael Heller, October 1979), an organization whose clients are virtually all college educated, is also between 40 percent to 50 percent of the national white male and female population rates. (National Center for Health Statistics, "U.S. Decennial Life Tables for 1969-1971," 1(1), May, 1975).

²⁶Personal communications with Robert J. Armstrong, Actuarial Advisor, National Center for Health Statistics, March-April 1979.

²³Adkins, op. cit., p. 45.

²²The Doctorate Records File is a virtually complete listing (in its later years) of the 500,000 plus individuals who have earned doctoral degrees in the United States since 1920. This file is maintained by NAS under contract to the Federal Government. New data for the file is collected via the National Survey of Doctorate Recipients also conducted by NAS under Federal contract. (See National Science Foundation, *A Guide to NSF Science Resources Data*, Washington, D.C. 1979, pp. 20-29).

Table 14. Mortality rates of whites as a proportion of the national white population rate

Level of school completed	White males		White females	
	25-64 years	65 and over	25-64 years	65 and over
All persons	1.00	1.00	1.00	1.00
High school, 4 years...	.91	.99	.87	.94
College, 3+ years...	.70	.98	.78	.70

SOURCES: E. Kitagawa and P. Hauser, *Differential Mortality in the U.S.*, p. 12. Washington, D.C.: Howard University Press, 1973

assumption(s). For this study, it was decided to use the result from the single, nationally representative study performed by Kitagawa and Hauser.²⁷

Given the criticality of this variable, the basis for this selection was a test of the sensitivity of the study estimates to this assumption. Specifically, stock estimates for male master's in psychology were generated for three alternatives suggested in the literature: (a) national mortality rates as estimated by NCHS; (b) 70 percent of these NCHS national mortality rates, and (c) 40 percent of these NCHS national mortality rates (table 15).

As can be seen, the estimates drawn from the 70-percent transformation of the NCHS mortality rates are always about 5 percent higher than the base estimate and the 40-percent transformation is about 11 percent higher than the base. Such simple additive impact will conveniently allow the interested reader to choose a different mortality rate assumption and modify the results of this stock estimation study accordingly.

Table 15. The stock of male holders of master's degrees in psychology under three different mortality assumptions

Year	NCHS' national	70 percent NCHS'	40 percent NCHS'
1960.....	6,191	6,540	6,954
1961.....	6,551	6,939	7,398
1962.....	7,043	7,468	7,978
1963.....	7,488	7,953	8,519
1964.....	7,963	8,475	9,097
1965.....	8,717	9,282	9,962
1966.....	9,718	10,334	11,086
1967.....	11,140	11,812	12,638
1968.....	12,765	13,504	14,415
1969.....	14,708	15,517	16,526
1970.....	16,138	17,036	18,149
1971.....	17,880	18,875	20,115
1972.....	19,963	21,065	22,440
1973.....	22,332	23,553	25,086
1974.....	26,463	27,870	29,544
1975.....	30,540	32,071	33,996
1976.....	34,623	36,348	38,507
1977.....	38,759	40,692	43,112

'National Center for Health Statistics.

SOURCE: National Science Foundation

²⁷In another context, L. E. Hinkle, Jr., "Occupation, Education and Coronary Heart Disease," *Science*, July 19, 1968, 161 (838): 238-46 reports a study of 270,000 men employed by the Bell System Operating Companies. Of interest here is the determination that heart disease and stroke rates are mainly related to education ("college" vs. "non-college") and age as opposed to occupation ("manager," etc.). In short, older citizens are more at risk than younger. However, once all death rates are adjusted so that groups of the same age are compared, then the college educated systematically have lower mortality rates independent of what they do for a living and despite there being no known biological basis for this result. Similar findings can also be found in a report by the Metropolitan Life Insurance Company, "Socioeconomic Mortality Differentials," *Statistical Bulletin*, vol. 56, January 1975, pp. 3-5, which compares data from selected companies in the United States with data from England and Wales. Lastly, C.C. Seltzer and S. Jablon, "Army Rank and Subsequent Mortality by Cause: 23 Year Follow-up," *American Journal of Epidemiology*, 105(6), June 1978, pp. 559-66) calculated parallel results in a 23-year followup of 85,000 white males who had served in the Army, i.e., age-adjusted death rates are inversely related to education.

superannuation

In the matter of retirement, technological obsolescence, and related issues, there is neither consensus on definitions nor good quantitative data to support analyses. Among the questions that might be addressed are the following: (1) Should retirees be counted as part of the stock), (2) Do the skills acquired as part of the training for the master's degree deteriorate with age? To compensate for both voluntary and involuntary (i.e., death) separation from the stock, as well as obsolescence, an arbitrary decision was made to exclude all S/E master's-holders of age 70 or more.

sensitivity analysis

The mathematical model used in this study contains a variety of assumptions about the variables used in the calculations. The assumptions can be found in the specific subsections describing each variable. However, the effect of the values produced by these assumptions on the model estimates, with the exception of mortality rates, has not been heretofore discussed. This section deals with the sensitivity tests that were conducted on the remaining assumptions.

Sensitivity tests were conducted with the following variables using the psychology master's series data: (1) Age distributions of master's graduates; (2) rates at which master's degree-holders earn second master's degrees; and, (3) rates at which the rate of emigration from the stock exceeds immigration. To determine the sensitivity of the model to errors in its magnitude, each of these variables was artificially altered as follows:

- (1) Age distributions: increase calculated ages by five years (i.e., one interval);
- (2) Second master's degrees: add 10 percent of estimated rate (i.e., double); and,
- (3) Emigration rate: increase one order of magnitude.

Table 16. Alternative estimates of psychology master's degree-holders

Year	Original estimates	Age variable	Emigration variable	Second master's
1960	6,540	6,496	5,400	5,341
1961	6,939	6,898	5,722	5,657
1962	7,468	7,439	6,162	6,091
1963	7,953	7,929	6,559	6,488
1964	8,475	8,458	6,996	6,914
1965	9,282	9,268	7,677	7,593
1966	10,334	10,323	8,576	8,690
1967	11,812	11,806	9,855	10,212
1968	13,504	13,499	11,313	11,951
1969	15,517	15,513	13,054	14,016
1970	17,036	17,004	14,338	15,583
1971	18,875	18,812	15,915	17,474
1972	21,065	20,970	17,791	19,718
1973	23,553	23,426	19,936	22,263
1974	27,830	27,669	23,817	26,594
1975	32,071	31,878	27,666	30,893
1976	36,348	36,126	31,538	35,223
1977	40,692	40,446	35,479	39,620

SOURCE: National Science Foundation

In almost all cases where a single variable was manipulated, the stock estimates produced with the "altered" values were about equal to, or no more than, an average of 5 percent less than the 1977 stock estimates produced by this study (table 16). The one case where the sensitivity experiment produced values that were substantially less than the stock estimates was where the rate of emigration was increased by an order of magnitude (i.e., from about 1 percent to 10 percent). The result was a reduction of about 13 percent to 18 percent from the estimated values. One interesting

feature of this analysis is that the differences have dropped from 18 percent in 1960 to 13 percent in 1977. The same trend toward convergence is also observed when rates for the second master's degrees is manipulated, i.e., from 18 percent (1960) to 3 percent (1977).

To test the interactions of each of these factors, every variable was simultaneously set to an artificially extreme value. In this one case, the results were an average of about two-thirds of the

stock estimates. As would be expected, these differentials also converge, i.e., from 37 percent (1960) to 19 percent (1977). The probability of all the variables being this much in error simultaneously is infinitely small. Therefore, users of these stock estimates can feel confident that the true values are in an interval that ranges from 100 percent to 90 percent of the values produced by this study, i.e., erring on the side of an overestimate.

detailed tables

Stock of s/e master's degree-holders, 1960-78

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19. Mechanical engineering	39
20. Mining engineering	40
21. Other engineering	41

Table 1.
SCIENCE AND ENGINEERING MASTER'S DEGREE STOCK
1960-1977 SUMMARY

YEAR	TOTAL S/E			SCIENCE			ENGINEERING		
	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL
1960	26136	141947	168083	25031	87812	112843	1105	54135	55240
1961	27918	153387	181305	26746	93741	120457	1172	59676	60848
1962	29963	166239	196202	28725	100557	129282	1238	65682	66920
1963	32345	179994	212339	31030	107919	138949	1315	72075	73390
1964	34925	195519	230444	33568	116332	149900	1357	79187	80544
1965	38165	213211	251376	36721	126213	162934	1444	86998	88442
1966	42108	233850	275958	40682	137504	178186	1426	96346	97772
1967	46724	257446	303220	45335	150852	196187	1439	105594	107033
1968	52433	280632	333065	50791	164796	215587	1642	115836	117478
1969	58885	305799	364684	56962	179850	236812	1923	125949	127872
1970	66428	328645	395073	64404	193189	257593	2024	135456	137480
1971	73439	353030	426469	71493	206223	277716	1946	146807	148753
1972	81191	377689	458880	79186	219621	298807	2005	158068	160073
1973	89059	402393	491452	87000	233590	320590	2059	168803	170862
1974	98161	433596	531757	95806	255426	351232	2355	178170	180525
1975	107682	463356	571038	105031	276114	381145	2651	187242	189893
1976	118126	493113	611239	114991	296352	411343	3135	196761	199896
1977	129665	523279	652944	125918	317320	443238	3747	205959	209706
1978	141492	548828	690320	137012	333722	470734	4480	215106	219586

Table 2.
SCIENCE MASTER'S DEGREE STOCK

YEAR	MATHEMATICS			COMPUTER SCIENCE			CHEMICAL SCIENCE		
	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL
1960	3231	9340	12571	0	9	9	2697	9101	11798
1961	3584	10539	14123	0	28	28	2840	9586	12426
1962	3963	12039	16002	1	55	56	3017	10107	13124
1963	4486	13917	18403	3	112	115	3204	10590	13794
1964	5023	15958	20981	8	194	202	3406	11204	14610
1965	5665	18289	23954	17	333	350	3659	11899	15558
1966	6492	21001	27493	33	540	573	3943	12583	16526
1967	7584	23821	31405	57	941	998	4210	13233	17443
1968	8697	26641	35338	83	1426	1509	4624	14054	18678
1969	9951	29392	39343	152	2309	2461	4987	14882	19869
1970	11482	31955	43437	287	3622	3909	5355	15557	20912
1971	12713	33908	46621	442	4936	5378	5693	16295	21988
1972	13837	35262	49099	650	6546	7196	6027	16967	22994
1973	14842	36433	51275	856	8257	9113	6317	17647	23964
1974	15992	38039	54031	1124	10030	11154	6612	18778	25390
1975	17057	39212	56269	1432	11748	13180	6851	19810	26661
1976	17992	40726	58718	1772	13694	15466	7048	20650	27698
1977	18907	42050	60957	2196	15704	17900	7313	21425	28738
1978	19716	43373	63089	2711	17833	20544	7577	22258	29835

YEAR	PHYSICS			EARTH SCIENCES			PHYSICAL SCIENCE-OTHER		
	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL
1960	690	7748	8438	299	6393	6692	349	1982	2331
1961	726	8494	9220	316	6795	7111	414	2263	2677
1962	782	9363	10145	332	7197	7529	455	2444	2899
1963	846	10281	11127	356	7475	7831	503	2678	3181
1964	896	11463	12359	373	7827	8200	525	2873	3398
1965	965	12656	13621	393	8182	8575	584	3182	3766
1966	1038	13802	14840	435	8462	8897	614	3441	4055
1967	1126	14976	16102	480	8937	9417	653	3731	4384
1968	1234	16130	17364	559	9406	9965	677	3880	4557
1969	1367	17308	18675	658	9958	10616	729	4021	4750
1970	1509	18180	19689	772	10372	11144	797	4192	4989
1971	1638	18934	20572	866	10829	11695	856	4468	5324
1972	1763	19469	21232	994	11349	12343	897	4621	5518
1973	1846	19772	21618	1156	11939	13095	934	4982	5916
1974	1950	20798	22748	1334	13077	14411	968	5135	6103
1975	2040	21751	23791	1506	14090	15596	1033	5293	6326
1976	2133	22537	24670	1707	15081	16788	1075	5466	6541
1977	2225	23178	25403	1909	16149	18058	1105	5550	6655
1978	2315	23815	26130	2131	17267	19398	1134	5633	6767

Table 2.--Con.
SCIENCE MASTER'S DEGREE STOCK

YEAR	BIOLOGICAL SCIENCES			AGRICULTURAL SCIENCE			PSYCHOLOGY		
	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL
1960	5924	11820	17744	310	13400	13710	6110	6540	12650
1961	6314	12714	19028	322	13451	13773	6492	6939	13431
1962	6785	13705	20490	348	13522	13870	6894	7468	14362
1963	7341	14760	22101	365	13568	13933	7306	7953	15259
1964	8038	15989	24027	394	13583	13977	7779	8475	16254
1965	8762	17419	26181	446	13584	14000	8445	9282	17727
1966	9650	19259	28909	473	13695	14168	9277	10334	19611
1967	10642	21608	32250	522	13873	14395	10290	11812	22102
1968	11727	23781	35508	582	14007	14589	11556	13504	25060
1969	12898	25861	38759	657	14247	14904	13015	15517	28532
1970	14329	27792	42121	745	14203	14948	14806	17036	31842
1971	15765	29302	45067	853	14599	15452	16669	18875	35544
1972	17243	30990	48233	1006	15189	16195	18975	21065	40040
1973	18591	33067	51658	1178	15883	17061	21705	23553	45258
1974	20014	36530	56544	1408	17302	18710	24890	27830	52720
1975	21385	39970	61355	1702	18784	20486	28546	32071	60617
1976	22849	43252	66101	2082	20367	22449	32821	36348	69169
1977	24583	46703	71286	2523	22202	24725	37529	40692	78221
1978	26327	49923	76250	3136	24070	27206	42280	44532	86812

YEAR	SOCIAL SCIENCES			INTERDISCIPLINARY SCIENCES		
	FEMALE	MALE	TOTAL	FEMALE	MALE	TOTAL
1960	4974	19272	24246	447	2207	2654
1961	5220	20379	25599	518	2523	3041
1962	5557	21650	27207	591	3007	3598
1963	5951	23241	29192	669	3344	4013
1964	6383	24913	31296	743	3853	4596
1965	6944	26815	33759	871	4572	5443
1966	7717	29331	37048	1010	5056	6066
1967	8629	32448	41077	1142	5472	6614
1968	9711	35879	45590	1341	6088	7429
1969	10993	39693	50686	1555	6662	8217
1970	12556	43086	55642	1766	7194	8960
1971	14154	46627	60781	1844	7450	9294
1972	15861	50445	66306	1933	7718	9651
1973	17569	54016	71585	2006	8041	10047
1974	19414	59503	78917	2100	8404	10504
1975	21308	64693	86001	2171	8692	10863
1976	23289	69410	92699	2223	8821	11044
1977	25326	73992	99318	2302	9675	11977
1978	27304	74408	101712	2381	10610	12991

Table 3.
ENGINEERING STOCK

DATE	CHEMICAL			FEMALE	CIVIL		FEMALE	ELECTRICAL-ELECTRONIC		
	FEMALE	MALE	TOTAL		MALE	TOTAL		FEMALE	MALE	TOTAL
1960	58	9711	9769	21	10080	10101	23	14499	14522	
1961	58	10232	10290	21	11119	11140	26	16286	16312	
1962	65	10774	10839	28	12169	12197	35	18293	18328	
1963	71	11404	11475	31	13328	13359	43	20343	20386	
1964	76	12046	12122	37	14637	14674	47	22658	22705	
1965	78	12719	12797	46	16032	16078	53	25228	25281	
1966	86	13596	13682	53	17806	17859	74	28192	28266	
1967	93	14454	14547	73	19555	19628	83	31174	31257	
1968	107	15474	15581	85	21462	21547	103	34317	34420	
1969	121	16440	16561	104	23318	23422	124	37194	37318	
1970	143	17269	17412	129	25165	25294	149	40082	40231	
1971	171	18144	18315	167	27113	27280	173	43014	43187	
1972	205	19073	19278	211	29195	29406	223	45751	45974	
1973	233	19926	20159	265	31506	31771	267	48112	48379	
1974	271	20751	21022	344	33805	34149	316	50084	50400	
1975	305	21486	21791	441	36032	36473	363	51961	52324	
1976	364	22198	22562	579	38503	39082	459	54035	54494	
1977	445	22950	23395	748	40904	41652	583	56058	56641	
1978	558	23770	24328	933	43034	43967	714	58051	58765	

DATE	MECHANICAL			FEMALE	MINING		FEMALE	ENGINEERING-OTHER		
	FEMALE	MALE	TOTAL		MALE	TOTAL		FEMALE	MALE	TOTAL
1960	33	13467	13500	0	1333	1333	970	5045	6015	
1961	34	14864	14898	0	1420	1420	1033	5755	6788	
1962	38	16360	16398	0	1503	1503	1072	6583	7655	
1963	40	18038	18078	0	1624	1624	1130	7338	8468	
1964	44	19948	19992	0	1701	1701	1153	8197	9350	
1965	54	21982	22036	1	1820	1821	1212	9217	10429	
1966	62	24261	24323	1	1932	1933	1150	10559	11709	
1967	66	26490	26556	1	2038	2039	1123	11883	13006	
1968	75	28666	28741	1	2185	2186	1271	13732	15003	
1969	87	30974	31061	5	2310	2315	1482	15713	17195	
1970	103	33087	33190	6	2407	2413	1494	17446	18940	
1971	105	35015	35120	6	2567	2573	1324	20954	22278	
1972	128	36847	36975	10	2759	2769	1228	24443	25671	
1973	145	38381	38526	11	2932	2943	1138	27946	29084	
1974	172	39582	39754	18	3029	3047	1234	30919	32153	
1975	188	40704	40892	21	3217	3238	1333	33842	35175	
1976	217	41853	42070	26	3406	3432	1490	36766	38256	
1977	266	42914	43180	39	3599	3638	1666	39534	41200	
1978	325	43971	44296	51	3811	3862	1899	42469	44368	

Table 4.
Academic degrees conferred in MATHEMATICS & STATISTICS in the U.S. by degree level and sex¹
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	1852	1449	3301	137	244	381	10	73	83
1931	1845	1506	3351	152	291	443	11	79	90
1932	1754	1483	3237	147	313	459	15	67	82
1933	1702	1505	3207	131	291	422	15	68	83
1934	1652	1527	3179	109	256	365	18	79	97
1935	1621	1526	3147	108	260	368	11	72	83
1936	1612	1559	3171	107	264	371	9	68	77
1937	1666	1626	3292	110	274	384	10	64	74
1938	1773	1768	3541	116	293	409	7	59	66
1939	1856	1916	3772	121	313	434	13	87	100
1940	1954	2069	4023	133	353	486	9	97	106
1941	1998	2038	4036	133	333	466	8	90	98
1942	2049	2005	4054	133	315	448	8	71	79
1943	1978	1466	3444	115	204	319	6	39	45
1944	1918	1038	2956	99	132	231	18	34	52
1945	1978	1097	3075	118	179	297	8	37	45
1946	2046	1137	3183	141	242	383	9	43	52
1947	1884	1972	3856	166	494	660	11	103	114
1948	1705	2676	4381	149	564	713	11	121	132
1949	1601	3615	5216	184	722	906	10	140	150
1950	1488	4972	6460	192	792	984	10	179	189
1951	1458	4331	5789	181	937	1118	9	179	188
1952	1343	3393	4736	139	667	806	11	197	208
1953	1287	3148	4435	112	568	680	14	229	243
1954	1374	2706	4080	127	580	707	14	214	228
1955	1312	2700	4012	148	613	761	11	240	251
1956	1523	3137	4660	179	719	898	10	225	235
1957	1720	3826	5546	188	777	965	13	236	249
1958	1971	4953	6924	240	994	1234	15	232	247
1959	2515	6504	9019	311	1188	1499	15	267	282
1960	3125	8312	11437	337	1428	1765	18	285	303
1961	3644	9483	13127	466	1772	2238	17	327	344
1962	4255	10355	14610	501	2179	2680	24	372	396
1963	4958	11163	16121	658	2665	3323	36	454	490
1964	5995	12682	18677	689	2914	3603	29	567	596
1965	6454	13138	19592	807	3343	4150	59	625	684
1966	6689	13406	20095	1001	3771	4772	57	725	782
1967	7310	14006	21316	1284	4001	5285	59	773	832
1968	8787	14846	23633	1331	4203	5534	52	895	947
1969	10227	17103	27330	1493	4230	5723	68	1029	1097
1970	10858	18249	29107	1796	4198	5994	97	1148	1245
1971	9494	15424	24913	1524	3677	5201	93	1106	1199
1972	9211	14185	23396	1430	3200	4630	76	849	925
1973	9106	13357	22463	1332	2944	4276	77	765	842
1974	8939	12874	21813	1500	3340	4840	100	931	1031
1975	7700	10646	18346	1428	2910	4338	110	865	975
1976	6554	9531	16085	1313	2550	3863	94	762	856
1977	5949	8354	14303	1300	2398	3698	109	714	823
1978	5246	7455	12701	1150	2233	3383	124	681	805

Table 5.
Academic degrees conferred in COMPUTER & INFORMATION SCIENCES in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	1	10	11	1	10	11	0	1	1
1961	1	10	11	1	20	21	0	1	1
1962	1	10	11	2	30	32	0	1	1
1963	2	20	22	3	60	63	0	1	1
1964	4	30	34	6	90	96	0	5	5
1965	7	50	57	10	150	160	1	10	11
1966	13	76	89	17	221	238	0	19	19
1967	24	198	222	26	423	449	1	37	38
1968	55	404	459	30	518	548	0	36	36
1969	121	812	933	73	939	1012	2	62	64
1970	209	1423	1632	145	1398	1543	2	106	108
1971	324	2064	2388	164	1424	1588	3	125	128
1972	461	2941	3402	225	1752	1977	12	155	167
1973	640	3665	4305	225	1888	2113	15	181	196
1974	780	3977	4757	293	1983	2276	9	189	198
1975	956	4083	5039	338	1961	2299	14	199	213
1976	1124	4540	5664	377	2226	2603	22	221	244
1977	1539	4887	6426	466	2332	2798	19	197	216
1978	1864	5360	7224	567	2471	3038	15	181	196

Table 6.
Academic degrees conferred in CHEMISTRY in the U.S. by degree level and sex:
1930-1977 (estimated)

YEAR	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	1331	3061	4392	73	470	543	26	306	332
1931	1346	3132	4478	82	549	631	35	333	368
1932	1303	3047	4350	80	581	661	36	326	362
1933	1284	3047	4331	73	532	605	24	396	420
1934	1266	3047	4313	62	460	522	23	413	436
1935	1329	3164	4493	62	457	519	28	374	401
1936	1379	3274	4653	62	455	517	26	435	461
1937	1529	3555	5084	69	490	559	33	477	510
1938	1657	3818	5475	76	528	604	19	420	439
1939	1765	4093	5858	85	586	671	24	478	501
1940	1924	4442	6366	95	653	748	30	502	532
1941	2020	4363	6383	96	606	702	16	642	658
1942	2143	4312	6455	100	574	674	22	584	606
1943	2096	3103	5199	88	369	457	18	501	519
1944	2052	2155	4207	79	239	318	18	534	548
1945	2151	2249	4400	95	319	414	14	328	342
1946	2263	2301	4564	115	420	535	31	286	317
1947	2210	4134	6344	138	844	982	24	394	418
1948	2145	5688	7833	217	1153	1370	30	539	569
1949	1950	8708	10658	248	1366	1614	37	720	757
1950	1794	10478	12272	221	1480	1701	39	928	967
1951	1416	8007	9423	171	1406	1577	52	1003	1055
1952	1305	6472	7777	177	1307	1484	45	993	1038
1953	1235	5671	6906	124	1148	1272	51	954	1005
1954	1277	5831	7108	129	1000	1129	46	986	1032
1955	1323	5715	7038	142	1068	1210	36	973	1009
1956	1335	5444	6779	134	1061	1195	52	937	989
1957	1445	5808	7253	140	946	1086	49	959	1008
1958	1471	6237	7708	180	1029	1209	49	898	947
1959	1568	6421	7989	187	1060	1247	49	978	1027
1960	1758	6550	8308	225	1116	1341	48	1014	1062
1961	1673	6161	7834	223	1217	1440	57	1088	1145
1962	1895	6982	8877	268	1305	1573	69	1072	1141
1963	1963	7756	9719	281	1295	1576	78	1178	1256
1964	2095	8562	10657	301	1432	1733	93	1210	1303
1965	2137	8956	11093	369	1572	1941	102	1326	1428
1966	1980	8682	10662	398	1625	2023	95	1488	1583
1967	1938	8769	10707	386	1612	1998	119	1645	1764
1968	2400	9841	12241	545	1792	2337	146	1639	1785
1969	2622	10696	13318	500	1874	2374	150	1830	1980
1970	2227	10053	12280	515	1760	2275	171	2053	2224
1971	2095	9127	11222	493	1835	2328	173	2017	2190
1972	2120	8619	10739	505	1789	2294	193	1799	1992
1973	1967	8279	10246	469	1796	2265	184	1716	1900
1974	2113	8423	10536	474	1693	2167	173	1669	1842
1975	2385	8282	10667	417	1618	2035	205	1629	1834
1976	2497	8626	11123	383	1437	1820	197	1442	1639
1977	2602	8748	11350	449	1371	1820	188	1405	1593
1978	2884	8619	11503	448	1475	1923	203	1341	1544

Table 7.

Academic degrees conferred in PHYSICS in the U.S. by degree level and sex:
1930-1977 (estimated)

YEAR	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	211	799	1010	34	184	218	6	103	109
1931	211	847	1058	37	225	262	4	109	113
1932	200	850	1050	36	247	283	9	107	116
1933	194	878	1072	32	236	268	2	131	133
1934	188	905	1093	27	211	238	7	111	118
1935	185	920	1105	26	218	244	2	129	131
1936	184	954	1138	26	224	250	4	125	129
1937	190	1010	1200	27	237	264	7	140	147
1938	203	1112	1315	28	257	285	8	143	151
1939	212	1222	1434	29	279	308	3	150	153
1940	223	1336	1559	32	319	351	3	129	132
1941	228	1332	1560	32	305	337	7	164	171
1942	234	1326	1560	32	291	323	9	136	145
1943	226	980	1206	28	191	219	12	110	122
1944	219	701	920	24	125	149	4	63	67
1945	226	749	975	29	172	201	8	39	47
1946	234	784	1018	34	234	268	3	60	63
1947	206	1492	1698	40	483	523	8	123	131
1948	176	2097	2273	46	675	721	9	202	211
1949	215	3117	3332	51	906	957	9	270	279
1950	158	3800	3958	40	980	1020	6	373	379
1951	140	3065	3205	43	1022	1065	9	447	456
1952	134	2442	2576	40	913	953	11	490	501
1953	101	2254	2355	37	726	763	8	489	497
1954	92	2329	2421	33	718	751	8	498	506
1955	89	2306	2395	32	730	762	13	515	528
1956	121	2448	2569	24	749	773	11	482	493
1957	140	2891	3031	31	829	860	14	448	462
1958	171	3344	3515	28	828	856	13	473	486
1959	161	4020	4181	38	963	1001	10	490	500
1960	200	4577	4777	39	1127	1166	10	489	499
1961	261	4462	4723	60	1351	1411	7	573	580
1962	217	5107	5324	76	1551	1627	13	680	693
1963	273	5065	5338	90	1639	1729	11	770	781
1964	275	5233	5508	77	2022	2099	14	805	819
1965	284	5268	5552	99	2143	2242	24	980	1004
1966	257	4882	5139	100	2101	2201	24	997	1021
1967	304	4931	5235	119	2251	2370	33	1217	1250
1968	388	5365	5753	140	2315	2455	36	1331	1367
1969	405	3896	4301	167	2485	2652	37	1367	1404
1970	366	5421	5787	179	2250	2429	44	1489	1533
1971	352	4860	5212	166	2136	2302	51	1531	1582
1972	347	4457	4804	171	2031	2202	50	1403	1453
1973	339	4072	4411	125	1722	1847	58	1377	1435
1974	372	3769	4141	148	1603	1751	53	1145	1198
1975	390	3469	3859	139	1551	1690	62	1106	1168
1976	405	3305	3710	140	1400	1540	53	1070	1123
1977	379	3193	3572	140	1260	1400	65	963	1028
1978	395	3063	3458	135	1254	1389	53	909	962

Table 8.
Academic degrees conferred in EARTH SCIENCES in the U.S. by degree level and sex:
1930-1977 (estimated)

YEAR	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	131	1069	1200	10	170	180	4	69	73
1931	130	1104	1234	11	202	213	4	42	46
1932	124	1082	1206	11	216	227	2	57	59
1933	121	1093	1214	9	201	210	5	77	82
1934	118	1103	1221	8	177	185	1	68	69
1935	116	1097	1213	8	178	186	1	76	77
1936	115	1116	1231	8	179	187	0	73	73
1937	120	1158	1278	8	186	194	2	53	55
1938	128	1253	1381	9	197	206	2	73	75
1939	134	1353	1487	9	210	219	2	72	74
1940	142	1455	1597	10	236	246	6	75	81
1941	146	1427	1573	10	221	231	3	65	68
1942	150	1399	1549	10	208	218	3	64	67
1943	145	1018	1163	9	135	144	3	40	43
1944	142	718	860	7	88	95	1	19	20
1945	147	756	903	9	118	127	4	26	30
1946	153	781	934	11	157	168	2	34	36
1947	149	998	1147	13	321	334	3	57	60
1948	144	1158	1302	19	304	323	2	55	57
1949	130	2105	2235	35	412	447	5	86	91
1950	140	3557	3697	19	572	591	4	123	127
1951	89	3156	3245	24	651	675	3	134	137
1952	94	2406	2500	19	597	616	0	129	129
1953	81	2063	2144	9	597	606	3	147	150
1954	102	2044	2146	15	457	472	7	139	146
1955	111	2147	2258	31	545	576	2	157	159
1956	93	2392	2485	17	561	578	2	159	161
1957	103	2865	2968	20	657	677	5	170	175
1958	123	3208	3331	24	842	866	3	178	181
1959	107	3290	3397	20	823	843	5	223	228
1960	89	2933	3022	19	761	780	4	238	242
1961	89	2215	2304	24	787	811	3	234	237
1962	86	1755	1841	25	796	821	3	230	233
1963	75	1384	1459	33	708	741	5	294	299
1964	121	1476	1597	28	797	825	5	276	281
1965	150	1523	1673	37	848	885	1	343	344
1966	177	1697	1874	51	782	833	10	367	377
1967	216	2881	3097	61	995	1056	7	375	382
1968	286	2332	2618	93	1052	1145	9	398	407
1969	354	2918	3272	117	1148	1265	22	426	448
1970	361	3183	3544	134	1055	1189	16	457	473
1971	384	3202	3586	116	1126	1242	15	456	471
1972	505	3627	4132	154	1285	1439	23	512	535
1973	553	3951	4504	190	1365	1555	26	472	498
1974	814	4303	5117	208	1562	1770	20	486	506
1975	860	4258	5118	207	1459	1666	25	504	529
1976	952	4261	5213	235	1453	1688	39	493	532
1977	1227	4639	5866	239	1548	1787	50	524	574
1978	1350	4859	6209	304	1624	1928	45	471	516

Table 9.
Academic degrees conferred in OTHER PHYSICAL SCIENCES in the U.S. by degree level and sex:
1930-1977 (estimated)

YEAR	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	26	545	571	4	56	60	0	10	10
1931	28	556	584	5	65	70	0	11	11
1932	28	537	565	5	69	74	0	11	11
1933	29	536	565	5	63	68	0	13	13
1934	29	534	563	4	55	59	0	11	11
1935	31	525	556	4	54	58	0	13	13
1936	32	527	559	4	54	58	0	13	13
1937	35	541	576	5	55	60	0	15	15
1938	39	578	617	5	58	63	0	15	15
1939	44	617	661	6	61	67	0	16	16
1940	49	656	705	7	68	75	0	14	14
1941	53	636	689	7	63	70	0	18	18
1942	58	616	674	8	59	67	0	15	15
1943	59	444	503	7	38	45	0	12	12
1944	61	310	371	6	24	30	0	7	7
1945	67	322	389	8	32	40	0	4	4
1946	74	329	403	10	43	53	0	7	7
1947	90	682	772	13	86	99	0	14	14
1948	107	987	1094	3	108	111	0	13	13
1949	81	1054	1135	8	159	167	0	56	56
1950	82	1193	1275	4	139	143	0	49	49
1951	66	1045	1111	2	152	154	1	50	51
1952	45	920	965	1	152	153	1	59	60
1953	53	654	707	5	186	191	0	65	65
1954	56	410	466	4	75	79	1	24	25
1955	81	741	822	9	58	67	1	19	20
1956	146	803	949	54	117	171	3	22	25
1957	114	849	963	40	116	156	4	30	34
1958	116	1079	1195	59	202	261	1	40	41
1959	127	1182	1309	62	256	318	5	59	64
1960	170	1257	1427	79	286	365	0	40	40
1961	203	1349	1552	75	378	453	3	31	34
1962	173	1216	1389	50	271	321	2	56	58
1963	173	1228	1401	61	342	403	1	46	47
1964	189	1260	1449	34	307	341	1	54	55
1965	224	1240	1464	72	430	502	1	80	81
1966	151	993	1144	44	380	424	3	85	88
1967	171	1079	1250	49	419	468	4	101	105
1968	157	939	1096	39	279	318	2	86	88
1969	172	1035	1207	71	280	351	4	97	101
1970	170	1004	1174	80	323	403	7	106	113
1971	183	1346	1529	78	436	514	7	141	148
1972	176	1036	1212	58	314	372	7	116	123
1973	262	1386	1648	63	544	607	6	177	183
1974	237	1256	1493	57	342	399	7	78	85
1975	203	1049	1252	85	354	439	10	87	97
1976	285	1228	1513	67	370	437	11	128	139
1977	343	1487	1830	59	279	338	17	132	149
1978	358	1647	2005	59	277	336	11	104	115

Table 10

Academic degrees conferred in BIOLOGICAL SCIENCES in the U.S. by degree level and sex:
1930-1977 (estimated)

YEAR	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	1870	2953	4823	126	370	496	65	273	338
1931	1927	3075	5002	142	434	576	66	360	426
1932	1937	3106	5043	144	476	620	90	324	414
1933	1912	3109	5021	133	444	577	71	348	419
1934	1888	3112	5000	118	399	517	82	399	481
1935	2053	3344	5397	118	399	517	61	373	434
1936	2168	3520	5688	119	399	518	92	367	459
1937	2483	3946	6429	136	444	580	69	368	437
1938	2700	4250	6950	153	489	642	84	434	518
1939	2884	4565	7449	176	561	737	84	472	556
1940	3001	4725	7726	198	627	825	83	528	611
1941	3092	4552	7644	201	585	786	64	538	602
1942	3139	4302	7441	200	529	729	79	547	626
1943	3128	3151	6279	174	334	508	56	435	491
1944	3124	2231	5355	149	208	357	87	282	369
1945	3286	2333	5619	183	283	466	82	214	296
1946	3471	2396	5867	225	380	605	64	192	256
1947	4016	5440	9456	270	766	1036	77	340	417
1948	4563	8089	12652	408	1003	1411	77	344	421
1949	4234	11988	16222	532	1399	1931	65	432	497
1950	4334	15188	19522	492	1874	2366	90	550	640
1951	3816	12428	16244	481	2084	2565	99	696	795
1952	3414	9658	13072	409	1978	2387	84	681	765
1953	3129	8388	11517	358	1590	1948	117	849	966
1954	3103	8429	11532	324	1298	1622	102	984	1086
1955	2906	7838	10744	385	1233	1618	98	894	992
1956	3259	9937	13196	379	1327	1706	116	889	1005
1957	3426	11150	14576	364	1396	1760	112	983	1095
1958	3548	11645	15193	423	1485	1908	137	981	1118
1959	4016	11956	15972	511	1602	2113	111	927	1038
1960	4318	12240	16558	523	1750	2273	119	1078	1197
1961	4699	12445	17144	596	1922	2518	136	1042	1178
1962	5305	12854	18159	698	2177	2875	158	1173	1331
1963	5954	14626	20580	809	2300	3109	174	1273	1447
1964	7005	17358	24363	985	2559	3544	189	1424	1613
1965	8082	19123	27205	1044	2947	3991	229	1699	1928
1966	8313	20611	28924	1211	3316	4527	298	1790	2088
1967	8741	22039	30780	1347	3991	5338	333	1914	2247
1968	8924	22726	31650	1471	3940	5411	428	2324	2752
1969	9936	25281	35217	1596	4057	5653	465	2548	3013
1970	11000	28216	39216	1895	4173	6068	461	2805	3266
1971	10571	25462	36033	1943	3813	5756	595	3050	3645
1972	11147	26491	37638	2027	4099	6126	622	3032	3654
1973	12824	29848	42672	1924	4370	6294	711	2926	3637
1974	15378	33478	48856	2014	4567	6581	700	2740	3440
1975	17416	34820	52236	1976	4615	6591	743	2641	3384
1976	19119	35794	54913	2103	4518	6621	731	2666	3397
1977	19719	34474	54193	2416	4738	7154	728	2675	3403
1978	20223	31990	52213	2430	4421	6851	801	2512	3313

Table 11.

Academic degrees conferred in AGRICULTURAL SCIENCES in the U.S. by degree level and sex:
1930-1977 (estimated)

YEAR	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	71	3222	3293	5	601	606	0	44	44
1931	73	3328	3401	6	703	709	1	56	57
1932	74	3335	3409	7	765	772	2	58	60
1933	73	3309	3382	7	711	718	0	68	68
1934	72	3283	3355	8	637	645	0	73	73
1935	78	3495	3573	8	632	640	0	76	76
1936	83	3645	3728	8	627	635	0	56	56
1937	95	4046	4141	9	695	704	2	53	55
1938	103	4313	4416	10	758	768	1	57	58
1939	110	4584	4694	11	865	876	2	56	58
1940	115	4693	4808	13	960	973	0	82	82
1941	118	4469	4587	13	888	901	0	92	92
1942	120	4173	4293	13	830	843	0	93	93
1943	119	3018	3137	11	782	793	1	65	66
1944	119	2109	2228	10	776	786	0	49	49
1945	125	2175	2300	11	413	424	0	53	53
1946	133	2202	2335	13	549	562	0	38	38
1947	163	4322	4485	15	1094	1109	1	79	80
1948	177	5225	5402	18	829	847	3	164	167
1949	141	7768	7909	23	919	942	6	226	232
1950	142	10766	10908	10	1070	1080	4	312	316
1951	118	8924	9042	28	1150	1178	3	327	330
1952	144	9451	9595	30	1578	1608	10	402	412
1953	151	8674	8825	32	1438	1470	5	468	473
1954	145	7687	7832	23	1279	1302	7	508	515
1955	118	7052	7170	28	1336	1364	8	499	507
1956	111	5030	5141	16	823	839	6	339	345
1957	150	5340	5490	19	934	953	10	279	289
1958	91	5434	5525	12	937	949	6	303	309
1959	73	5348	5421	17	997	1014	7	336	343
1960	93	4805	4898	12	984	996	7	404	411
1961	68	4245	4313	26	1001	1027	4	404	408
1962	89	4378	4467	35	1072	1107	2	411	413
1963	109	4478	4587	28	1048	1076	8	400	408
1964	121	4626	4747	41	1104	1145	9	479	488
1965	168	5026	5194	34	1123	1157	13	465	478
1966	152	5578	5730	68	1295	1363	7	530	537
1967	174	6084	6258	71	1392	1463	12	552	564
1968	251	6491	6742	74	1418	1492	12	549	561
1969	389	7685	8074	93	1606	1699	12	593	605
1970	480	8712	9192	110	1370	1480	28	698	726
1971	528	11006	11531	130	1910	2040	28	846	874
1972	727	11761	12488	178	2102	2280	22	783	805
1973	1087	12751	13838	203	2188	2391	21	848	869
1974	1539	13586	15125	266	2258	2524	29	736	765
1975	2428	14103	16531	338	2349	2687	31	801	832
1976	3491	14798	18289	426	2458	2884	54	714	768
1977	4661	15538	20199	499	2740	3239	54	699	753
1978	5417	15610	21027	694	2790	3484	55	755	810

Table 12.
Academic degrees conferred in PSYCHOLOGY in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	816	583	1399	70	130	200	26	87	113
1931	882	649	1531	79	153	232	32	102	134
1932	974	733	1707	80	183	270	31	88	119
1933	962	747	1709	84	181	265	24	78	102
1934	950	760	1710	82	179	261	30	106	136
1935	1027	824	1851	82	180	262	29	93	122
1936	1081	877	1958	83	180	263	30	84	114
1937	1229	989	2218	94	201	295	33	80	113
1938	1329	1072	2401	105	221	326	40	88	128
1939	1418	1163	2581	120	253	373	30	95	125
1940	1583	1304	2887	134	282	516	33	96	129
1941	1660	1290	2950	136	262	398	29	92	121
1942	1778	1295	3073	145	254	399	32	100	132
1943	1640	883	2523	128	165	293	31	63	94
1944	1509	579	2088	116	106	222	31	50	81
1945	1586	607	2193	132	134	266	29	43	72
1946	1667	621	2288	149	165	314	28	55	83
1947	2672	1827	4499	179	331	510	35	86	121
1948	3703	2892	6595	562	675	1237	37	157	194
1949	3772	4761	8533	618	891	1509	40	253	293
1950	3611	6143	9754	436	960	1396	55	352	407
1951	3004	4915	7919	475	1259	1734	62	435	497
1952	2851	3838	6689	437	1085	1522	79	536	615
1953	2634	3399	6033	370	924	1294	87	581	668
1954	2674	3095	5769	478	912	1390	77	635	712
1955	2518	3001	5519	528	901	1429	93	681	774
1956	2666	3608	6274	379	724	1103	90	601	691
1957	2746	3960	6706	426	789	1215	92	507	599
1958	2950	4507	7457	500	871	1371	90	541	631
1959	3032	4964	7996	502	890	1392	106	596	702
1960	3451	5217	8668	535	1004	1539	103	597	700
1961	3566	5370	8936	573	1119	1692	135	570	705
1962	3974	5465	9439	610	1293	1875	161	669	830
1963	4787	6812	11599	628	1308	1904	152	746	898
1964	5756	8244	14000	718	1330	2021	187	795	982
1965	6046	8733	14778	937	1722	2630	197	808	1005
1966	6996	10070	17066	1107	1948	3008	262	941	1203
1967	7823	11724	19547	1315	2488	3696	278	1112	1390
1968	10189	13915	24104	1597	2839	4329	337	1110	1447
1969	12763	16865	29628	1835	3338	5000	403	1365	1768
1970	14907	19353	34260	2201	3031	5198	459	1511	1970
1971	17151	21318	38469	2325	3399	5724	515	1629	2144
1972	20374	23488	43862	2833	3935	6768	583	1694	2277
1973	23090	25251	48341	3325	4345	7670	753	1797	2550
1974	26562	26012	52574	3826	4998	8824	885	1990	2875
1975	27266	24427	51693	4382	5050	9432	934	1979	2913
1976	27680	23053	50733	5079	5155	10234	1042	2115	3157
1977	27516	20766	48282	5582	5296	10878	1259	2127	3386
1978	26786	18591	45377	5634	4682	10316	1195	1979	3174

Table 13.
Academic degrees conferred in SOCIAL SCIENCES in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	2563	5242	7805	76	314	390	20	187	207
1931	2691	5540	8231	82	378	460	25	231	256
1932	2829	5829	8658	93	415	508	32	237	269
1933	2807	5779	8586	92	412	504	37	223	260
1934	2785	5727	8512	80	391	471	17	229	246
1935	2925	5915	8840	80	379	459	21	190	211
1936	3037	6074	9111	80	378	458	25	200	225
1937	3341	6551	9892	89	409	498	35	218	253
1938	3595	6963	10558	98	437	535	35	226	261
1939	3816	7385	11201	109	487	596	37	230	267
1940	3676	7940	11616	121	545	666	23	262	285
1941	4333	7702	12035	123	507	630	37	305	342
1942	4584	7516	12100	128	476	604	35	269	304
1943	4470	5278	9748	114	311	425	30	171	201
1944	4349	3560	7909	104	216	320	21	145	166
1945	4542	3650	8192	121	253	374	23	124	147
1946	4754	3662	8416	143	331	474	28	168	196
1947	6468	10045	16513	171	657	828	28	266	294
1948	8356	15884	24240	491	2027	2518	41	301	342
1949	8123	22510	30633	483	2170	2653	44	440	484
1950	7413	27328	34741	531	2257	2788	52	493	545
1951	6955	21236	28191	416	2257	2673	63	600	663
1952	6874	17396	24270	354	1898	2252	62	569	631
1953	6364	15645	22009	341	1710	2051	49	606	655
1954	6221	15201	21422	323	1672	1995	64	676	740
1955	6046	14782	20828	356	1619	1975	55	674	729
1956	6280	15155	21435	344	1646	1990	69	753	822
1957	6440	16120	22560	427	1816	2243	55	700	755
1958	6429	17106	23535	402	2009	2411	72	725	797
1959	6635	17616	24251	424	2079	2503	80	710	790
1960	6980	17588	24568	394	2187	2581	83	784	867
1961	7294	18739	26033	421	2380	2801	84	849	933
1962	8322	20301	28623	538	2590	3128	76	864	940
1963	9598	22922	32520	612	3037	3649	103	953	1056
1964	11671	26717	38388	666	3205	3871	98	1063	1161
1965	13345	29378	42723	834	3568	4402	97	1192	1289
1966	15273	32739	48012	1060	4242	5302	136	1275	1411
1967	17594	37314	54908	1236	5087	6323	196	1506	1702
1968	21666	43741	65407	1441	5581	7022	222	1719	1941
1969	25426	51068	76494	1692	6214	7906	256	1896	2152
1970	27738	55664	83402	2026	6067	8093	302	2220	2522
1971	31097	58418	89515	2106	6480	8586	388	2456	2844
1972	31527	61039	92566	2276	7059	9335	399	2630	3029
1973	32782	62138	94920	2319	7017	9336	498	2721	3219
1974	33837	61881	95718	2497	7127	9624	576	2603	3179
1975	32368	56493	88861	2580	6957	9537	616	2576	3192
1976	31141	53145	84286	2720	6566	9286	693	2523	3216
1977	31027	48570	79597	2805	6499	9304	660	2407	3067
1978	31579	46148	77727	2725	5913	8638	692	2202	2894

Table 14.
Academic degrees conferred in INTERDISCIPLINARY STUDIES in the U.S. by degree level and sex,
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0
1948	240	1273	1513	7	22	29	0	0	0
1949	800	5173	5973	123	463	586	1	11	12
1950	1076	5604	6680	47	379	426	1	29	30
1951	725	4603	5328	36	394	430	0	16	16
1952	740	3700	4440	38	231	269	0	11	11
1953	579	2724	3303	32	175	207	1	3	4
1954	748	3638	4386	12	83	95	4	32	36
1955	601	3106	3707	20	97	117	0	4	4
1956	308	899	1207	9	61	70	0	0	0
1957	278	1138	1416	15	81	96	0	5	5
1958	396	1496	1892	39	184	223	0	0	0
1959	406	1539	1945	85	267	352	0	6	6
1960	436	1715	2151	74	320	394	0	2	2
1961	487	1533	2020	85	402	487	0	3	3
1962	535	1736	2291	89	584	673	0	1	1
1963	671	1849	2520	97	439	536	0	4	4
1964	631	1955	2586	94	622	716	0	1	1
1965	705	2063	2768	151	857	1008	3	14	17
1966	690	1930	2620	160	605	765	2	9	11
1967	720	1806	2526	161	540	701	0	7	7
1968	875	2002	2877	233	758	991	1	10	11
1969	941	2221	3162	248	723	971	3	26	29
1970	864	2220	3084	251	697	948	2	17	19
1971	708	3367	4075	119	429	548	1	31	32
1972	829	2839	3668	132	449	581	6	61	67
1973	663	2543	3206	122	521	643	12	93	105
1974	928	3610	4538	145	572	717	3	40	43
1975	982	3220	4202	122	514	636	9	72	81
1976	1305	3134	4439	111	356	467	9	45	54
1977	1271	3061	4332	132	1104	1236	10	49	59
1978	1332	2755	4087	133	1209	1342	16	45	61

Table 15
Academic degrees conferred in ENGINEERING in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	152	10332	10484	11	656	667	0	71	71
1931	165	11087	11252	13	765	778	3	72	75
1932	185	12083	12268	15	911	926	0	73	73
1933	186	11922	12108	14	879	893	0	100	100
1934	185	11762	11947	13	854	867	0	123	123
1935	188	11393	11581	14	841	855	0	116	116
1936	193	11317	11510	14	829	843	1	70	71
1937	207	11469	11676	14	835	849	1	92	93
1938	231	12230	12461	16	868	884	0	72	72
1939	261	12959	13220	18	902	920	1	65	66
1940	293	14499	14792	21	1000	1021	1	105	106
1941	329	14624	14953	24	920	944	0	118	118
1942	378	15100	15478	26	899	925	0	93	93
1943	418	11775	12193	24	598	622	0	53	53
1944	473	9048	9521	24	406	430	0	74	74
1945	511	9320	9831	31	586	617	1	76	77
1946	559	9484	10043	43	855	898	0	100	100
1947	622	20731	21353	53	1688	1741	0	115	115
1948	682	30482	31164	84	3992	4076	1	263	264
1949	699	42804	43503	110	4412	4522	4	362	366
1950	741	50956	51697	96	4098	4194	3	423	426
1951	666	40659	41325	100	4614	4714	3	526	529
1952	646	29882	30528	102	3855	3957	5	531	536
1953	633	23617	24250	91	3409	3500	5	523	528
1954	664	21818	22482	91	3845	3936	2	597	599
1955	660	21987	22647	105	4130	4235	5	598	603
1956	478	25557	26035	75	4383	4458	2	608	610
1957	463	30543	31006	66	4853	4919	3	586	589
1958	548	34572	35120	93	5313	5406	5	642	647
1959	502	37127	37629	82	6181	6263	6	709	715
1960	546	36969	37515	99	6696	6795	8	774	782
1961	572	35470	36042	103	7728	7831	10	934	944
1962	562	34223	34785	116	8406	8522	7	1187	1194
1963	542	33147	33689	114	9032	9146	17	1351	1368
1964	711	34870	35581	107	10018	10125	10	1666	1676
1965	696	36367	37063	125	11042	11167	12	2068	2080
1966	751	35684	36435	166	12450	12616	13	2261	2274
1967	881	36388	37269	153	12589	12742	17	2546	2563
1968	1469	38541	40010	251	13964	14215	18	2852	2870
1969	1817	43360	45177	327	14116	14443	29	3276	3305
1970	1681	46408	48089	295	13807	14102	32	3546	3578
1971	361	44848	45209	185	16138	16323	23	3634	3657
1972	492	45201	45693	271	16458	16729	24	3627	3651
1973	576	46115	46691	284	16269	16553	56	3427	3483
1974	695	42440	43135	352	14810	15162	58	3284	3342
1975	845	38961	39806	371	14767	15138	64	3042	3106
1976	1317	37457	38774	568	15453	16021	68	2742	2810
1977	2044	39285	41329	697	15270	15967	76	2512	2588
1978	3479	43743	47222	840	15209	16049	57	2380	2437

Table 16.

Academic degrees conferred in CHEMICAL ENGINEERING in the U.S. by degree level and sex:
1930-1977. (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	21	1804	1825	2	203	205	0	38	38
1931	22	1915	1937	2	235	237	1	38	39
1932	24	2064	2088	3	277	280	0	38	38
1933	24	2013	2037	2	264	266	0	51	51
1934	23	1962	1985	2	255	257	0	63	63
1935	23	1877	1900	2	248	250	0	58	58
1936	23	1840	1863	2	242	244	0	35	35
1937	23	1839	1862	2	241	243	0	45	45
1938	25	1933	1958	2	247	249	0	35	35
1939	27	2018	2045	2	254	256	0	31	31
1940	30	2222	2252	3	278	281	0	50	50
1941	33	2205	2238	3	253	256	0	56	56
1942	36	2237	2273	3	243	246	0	43	43
1943	39	1713	1752	3	160	163	0	24	24
1944	42	1291	1333	3	107	110	0	34	34
1945	44	1303	1347	3	152	155	0	34	34
1946	46	1298	1344	4	218	222	0	44	44
1947	55	2817	2872	5	415	430	0	50	50
1948	65	4134	4199	0	1086	1086	0	102	102
1949	23	4971	4994	2	918	920	1	163	164
1950	36	5458	5494	1	854	855	1	203	204
1951	22	4666	4688	2	987	989	0	202	202
1952	9	3588	3597	6	740	746	0	203	203
1953	5	2909	2914	3	547	550	0	177	177
1954	13	2649	2662	4	621	625	0	204	204
1955	13	2549	2562	1	634	635	0	217	217
1956	24	3021	3045	5	709	714	0	222	222
1957	22	3501	3523	1	770	771	1	212	213
1958	29	3808	3837	6	764	770	1	200	201
1959	25	4007	4032	4	830	834	0	214	214
1960	38	3779	3817	12	845	857	0	247	247
1961	28	3723	3751	4	896	900	0	262	262
1962	25	3480	3505	11	935	946	2	313	315
1963	32	3587	3619	9	1064	1073	2	345	347
1964	37	3855	3892	7	1095	1102	1	386	387
1965	35	3916	3951	7	1166	1173	3	542	545
1966	30	3599	3629	10	1357	1367	3	514	517
1967	36	3660	3696	8	1349	1357	2	502	504
1968	43	3985	4028	16	1556	1572	5	554	559
1969	63	4402	4465	15	1530	1545	4	623	627
1970	67	4603	4670	23	1423	1446	6	680	686
1971	76	4416	4492	33	1503	1536	4	653	657
1972	92	4462	4554	39	1604	1643	4	632	636
1973	105	4396	4501	32	1566	1598	9	649	658
1974	148	4116	4264	44	1493	1537	13	619	632
1975	176	3659	3835	41	1420	1461	10	546	556
1976	319	3572	3891	67	1415	1482	17	500	517
1977	488	3803	4291	87	1458	1545	18	477	495
1978	820	4601	5421	122	1590	1712	12	455	467

Table 17.
Academic degrees conferred in CIVIL ENGINEERING in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	6	1977	1983	0	90	90	0	4	4
1931	6	2123	2129	0	105	105	0	4	4
1932	7	2314	2321	0	125	125	0	4	4
1933	7	2284	2291	0	121	121	0	6	6
1934	7	2254	2261	0	118	118	0	7	7
1935	7	2184	2191	0	116	116	0	7	7
1936	7	2171	2178	0	115	115	0	4	4
1937	7	2201	2208	0	116	116	0	6	6
1938	8	2348	2356	0	121	121	0	5	5
1939	8	2489	2497	0	126	126	0	4	4
1940	10	2786	2796	0	140	140	0	7	7
1941	11	2811	2822	1	129	130	0	8	8
1942	12	2904	2916	1	127	128	0	7	7
1943	13	2266	2279	0	84	84	0	4	4
1944	14	1742	1756	0	57	57	0	5	5
1945	15	1795	1810	0	83	83	0	6	6
1946	16	1828	1844	0	122	122	0	8	8
1947	24	3668	3692	1	242	243	0	9	9
1948	31	5250	5281	2	723	725	0	36	36
1949	21	7402	7423	3	857	860	0	32	32
1950	26	9318	9344	3	790	793	0	29	29
1951	12	8766	8778	1	762	763	0	57	57
1952	15	6595	6610	1	718	719	0	52	52
1953	11	5386	5397	1	652	653	0	44	44
1954	14	4751	4765	3	699	702	0	56	56
1955	11	4472	4483	3	849	852	0	42	42
1956	14	4842	4856	3	955	958	0	76	76
1957	11	5414	5425	4	1011	1015	0	60	60
1958	17	5858	5875	1	927	928	0	86	86
1959	26	6197	6223	7	1093	1100	0	90	90
1960	18	6049	6067	2	1253	1255	1	90	97
1961	29	6108	6137	1	1423	1424	2	144	146
1962	29	5860	5889	9	1469	1478	0	169	169
1963	21	5406	5427	5	1614	1619	2	167	169
1964	29	5650	5679	8	1825	1833	2	261	263
1965	18	5857	5875	10	1960	1970	2	292	294
1966	23	5950	5973	9	2324	2333	1	343	344
1967	29	5806	5835	22	2341	2363	1	361	362
1968	32	6148	6180	18	2571	2589	0	452	452
1969	49	6668	6717	21	2564	2585	2	458	460
1970	56	7265	7321	30	2614	2644	3	507	510
1971	61	7382	7443	45	2790	2835	3	550	553
1972	78	7627	7705	48	2998	3046	4	517	521
1973	92	8414	8506	63	3303	3366	14	494	508
1974	149	9006	9155	87	3311	3398	7	468	475
1975	177	8529	8706	107	3296	3403	12	451	463
1976	290	8615	8905	156	3595	3751	15	438	453
1977	507	8891	9398	188	3565	3753	9	373	382
1978	782	9669	10451	206	3164	3370	11	339	350

Table 18.
Academic degrees conferred in ELECTRICAL ENGINEERING in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	10	2261	2271	0	177	177	0	7	7
1931	11	2432	2443	1	207	208	0	8	8
1932	12	2657	2669	1	248	249	0	8	8
1933	12	2628	2640	1	240	241	0	11	11
1934	11	2600	2611	0	234	234	0	14	14
1935	11	2525	2536	1	232	233	0	14	14
1936	11	2515	2526	0	229	229	0	9	9
1937	12	2556	2568	0	232	232	0	12	12
1938	13	2734	2747	0	242	242	0	9	9
1939	13	2905	2918	1	253	254	0	9	9
1940	15	3261	3276	0	282	282	0	14	14
1941	16	3299	3315	1	260	261	0	16	16
1942	18	3418	3436	1	256	257	0	13	13
1943	19	2674	2693	1	171	172	0	8	8
1944	21	2062	2083	1	116	117	0	11	11
1945	22	2132	2154	1	169	170	0	11	11
1946	23	2177	2200	1	249	250	0	15	15
1947	26	4597	4623	1	498	499	0	18	18
1948	28	6688	6716	2	742	744	0	29	29
1949	26	11016	11042	4	987	991	0	65	65
1950	39	13231	13270	2	1055	1057	0	80	80
1951	11	9477	9488	0	1114	1114	0	113	113
1952	7	6446	6453	3	1005	1008	3	117	120
1953	7	4892	4899	1	879	880	1	131	132
1954	10	4494	4504	1	983	984	0	112	112
1955	13	4847	4860	2	1072	1074	0	141	141
1956	11	6211	6222	3	1158	1161	0	136	136
1957	11	8097	8108	2	1310	1312	0	130	130
1958	19	9548	9567	5	1565	1570	1	143	144
1959	30	10756	10786	6	1840	1846	0	189	189
1960	32	10599	10631	4	1989	1993	1	202	203
1961	25	10175	10200	4	2410	2414	1	249	250
1962	34	10229	10263	10	2691	2701	1	294	295
1963	31	10362	10393	9	2807	2816	2	384	386
1964	33	11228	11261	6	3157	3163	2	458	460
1965	36	11699	11735	7	3499	3506	2	510	512
1966	29	10979	11008	22	3850	3872	2	567	569
1967	42	10807	10849	11	3943	3954	0	668	668
1968	43	10687	10730	22	4205	4227	0	723	723
1969	66	11629	11695	22	4011	4033	4	858	862
1970	68	12220	12288	29	4109	4138	3	879	882
1971	76	12212	12288	30	4252	4282	3	876	879
1972	82	12099	12181	52	4157	4209	3	821	824
1973	158	12219	12377	49	3850	3899	9	782	791
1974	117	11302	11419	55	3444	3499	8	697	705
1975	130	10116	10246	58	3413	3471	11	690	701
1976	193	9681	9874	104	3670	3774	14	635	649
1977	268	9750	10018	134	3654	3788	18	548	566
1978	435	10778	11213	142	3600	3742	13	490	503

Table 19.
Academic degrees conferred in MECHANICAL ENGINEERING in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	22	3155	3177	1	135	136	0	16	16
1931	23	3391	3414	1	157	158	0	16	16
1932	25	3701	3726	1	188	189	0	16	16
1933	25	3658	3683	1	183	184	0	22	22
1934	24	3614	3638	1	178	179	0	26	26
1935	23	3507	3530	1	176	177	0	25	25
1936	23	3489	3512	1	174	175	0	15	15
1937	24	3542	3566	1	176	177	0	19	19
1938	26	3784	3810	1	184	185	0	15	15
1939	38	4017	4045	1	192	193	0	14	14
1940	31	4503	4534	2	213	215	0	22	22
1941	34	4551	4585	2	197	199	0	24	24
1942	38	4709	4747	2	193	195	0	19	19
1943	40	3680	3720	2	129	131	0	11	11
1944	44	2834	2878	2	89	91	0	15	15
1945	45	2925	2970	2	128	130	0	15	15
1946	47	2984	3031	3	187	190	0	20	20
1947	46	7189	7235	3	373	376	0	23	23
1948	44	10861	10905	2	1006	1008	0	58	58
1949	57	14262	14319	7	1170	1177	0	52	52
1950	41	16206	16247	4	1183	1187	0	69	69
1951	24	12373	12397	4	1279	1283	1	92	93
1952	19	8921	8940	4	928	932	0	97	97
1953	9	6846	6855	1	897	898	0	116	116
1954	10	6395	6405	1	996	997	0	116	116
1955	12	6794	6806	3	1003	1006	0	102	102
1956	13	7919	7932	5	1017	1022	0	97	97
1957	20	9287	9307	5	1131	1136	0	101	101
1958	26	10634	10660	1	1314	1315	1	101	102
1959	18	11414	11432	2	1487	1489	1	107	108
1960	27	11563	11590	4	1602	1606	1	131	132
1961	27	10608	10635	8	1911	1919	1	151	152
1962	19	10198	10217	5	2064	2069	0	213	213
1963	27	9224	9251	4	2305	2309	3	232	235
1964	26	9470	9496	6	2607	2613	1	272	273
1965	24	10147	10171	12	2813	2825	1	359	360
1966	24	9857	9881	13	3008	3021	1	402	403
1967	34	10165	10199	9	3030	3039	1	501	502
1968	44	10353	10397	12	3046	3058	2	559	561
1969	59	11435	11494	16	3254	3270	0	634	634
1970	59	12317	12376	17	3126	3143	2	655	657
1971	59	11717	11776	11	3015	3026	3	665	668
1972	69	10989	11058	27	2994	3021	1	613	614
1973	80	10530	10610	21	2756	2777	4	543	547
1974	84	9242	9326	31	2425	2456	9	552	561
1975	108	8434	8542	22	2384	2406	6	511	517
1976	177	8075	8252	38	2450	2488	4	444	448
1977	265	9014	9279	57	2368	2425	7	400	407
1978	531	10146	10677	69	2360	2429	8	389	397

Table 20.
Academic degrees conferred in MINING ENGINEERING in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			Female	MASTER'S			Female	DOCTORAL		
	Female	Male	Total		Female	Male	Total		Female	Male	Total
1930	2	469	471	0	21	21	21	0	0	0	0
1931	2	500	502	0	25	25	25	0	0	0	0
1932	3	542	545	0	29	29	29	0	0	0	0
1933	2	531	533	0	28	28	28	0	1	1	1
1934	2	521	523	0	27	27	27	0	1	1	1
1935	2	501	503	0	26	26	26	0	1	1	1
1936	2	494	496	0	26	26	26	0	0	0	0
1937	3	497	500	0	26	26	26	0	1	1	1
1938	3	526	529	0	27	27	27	0	1	1	1
1939	3	553	556	0	28	28	28	0	0	0	0
1940	3	613	616	0	31	31	31	0	1	1	1
1941	4	613	617	0	28	28	28	0	1	1	1
1942	4	627	631	0	27	27	27	0	1	1	1
1943	4	484	488	0	18	18	18	0	0	0	0
1944	5	368	373	0	12	12	12	0	1	1	1
1945	5	376	381	0	17	17	17	0	1	1	1
1946	5	378	383	0	25	25	25	0	1	1	1
1947	5	741	746	0	49	49	49	0	1	1	1
1948	4	1053	1057	0	108	108	108	0	2	2	2
1949	6	1145	1151	0	82	82	82	0	3	3	3
1950	6	1702	1708	0	105	105	105	0	1	1	1
1951	4	1563	1567	0	119	119	119	0	3	3	3
1952	0	1340	1340	0	112	112	112	0	6	6	6
1953	1	1069	1070	0	69	69	69	0	6	6	6
1954	2	924	926	0	97	97	97	0	11	11	11
1955	1	877	878	0	114	114	114	0	8	8	8
1956	0	955	955	0	109	109	109	0	9	9	9
1957	0	1141	1141	0	136	136	136	0	5	5	5
1958	1	1179	1180	0	117	117	117	0	9	9	9
1959	0	1251	1251	0	151	151	151	0	5	5	5
1960	3	1089	1092	0	133	133	133	0	7	7	7
1961	4	861	865	0	137	137	137	0	42	42	42
1962	1	663	664	0	141	141	141	0	14	14	14
1963	1	519	520	0	183	183	183	0	11	11	11
1964	2	396	398	0	141	141	141	1	20	20	21
1965	0	410	410	2	195	197	197	1	35	35	36
1966	2	386	388	1	179	180	180	1	50	50	51
1967	0	344	344	1	182	183	183	1	53	53	54
1968	0	438	438	0	230	230	230	0	53	53	53
1969	3	515	518	5	209	214	214	0	66	66	66
1970	4	594	598	2	187	189	189	3	63	63	66
1971	3	660	663	1	263	264	264	0	71	71	71
1972	18	795	813	5	300	305	305	1	88	88	89
1973	15	876	891	2	284	286	286	0	42	42	42
1974	22	956	978	8	209	217	217	1	84	84	85
1975	25	919	944	4	305	309	309	2	82	82	84
1976	38	954	992	6	311	317	317	1	52	52	53
1977	50	1072	1122	14	319	333	333	0	48	48	48
1978	82	1392	1474	13	352	371	371	0	58	58	58

Table 21.
Academic degrees conferred in OTHER ENGINEERING in the U.S. by degree level and sex:
1930-1977 (estimated)

DATE	BACHELOR'S			MASTER'S			DOCTORAL		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
1930	91	666	757	8	30	38	0	6	6
1931	101	726	827	9	36	45	2	6	8
1932	114	805	919	10	44	54	0	7	7
1933	116	808	924	10	43	53	0	9	9
1934	118	811	929	10	42	52	0	12	12
1935	122	799	921	10	43	53	0	11	11
1936	127	808	935	11	43	54	1	7	8
1937	138	834	972	11	44	55	1	9	10
1938	156	905	1061	13	47	60	0	7	7
1939	172	977	1149	14	49	63	1	7	8
1940	204	1114	1318	16	56	72	1	11	12
1941	231	1145	1376	17	53	70	0	13	13
1942	270	1205	1475	19	53	72	0	10	10
1943	303	958	1261	18	36	54	0	6	6
1944	347	751	1098	18	25	43	0	8	8
1945	380	789	1169	25	37	62	1	9	19
1946	422	819	1241	35	54	89	0	12	12
1947	466	1719	2185	43	111	154	0	14	14
1948	510	2496	3006	78	327	405	1	36	37
1949	566	4008	4574	94	398	492	3	47	50
1950	593	5041	5634	86	111	398	2	41	43
1951	593	3814	4407	93	353	446	2	59	61
1952	596	2992	3588	88	352	440	2	56	58
1953	600	2515	3115	85	365	450	4	49	53
1954	615	2605	3220	82	449	531	2	98	100
1955	610	2448	3058	96	458	554	5	88	93
1956	416	2609	3025	59	435	494	2	68	70
1957	399	3403	3502	54	495	549	2	78	80
1958	456	3545	4001	80	626	706	2	103	105
1959	403	3502	3905	63	780	843	5	104	109
1960	428	3890	4318	77	874	951	5	97	102
1961	459	3995	4454	86	951	1037	6	116	122
1962	454	3793	4247	81	1106	1187	4	184	188
1963	430	4049	4479	87	1059	1146	8	212	220
1964	584	4271	4855	80	1193	1273	3	269	272
1965	583	4338	4921	87	1409	1496	3	330	333
1966	643	4913	5556	111	1732	1843	5	385	390
1967	740	5606	6346	102	1744	1846	12	461	473
1968	1307	6930	8237	183	2356	2539	11	511	522
1969	1577	8711	10288	248	2548	2796	19	637	656
1970	1427	9409	10836	194	2348	2542	4	750	754
1971	86	8461	8547	65	4315	4380	10	8799	809
1972	153	9229	9382	100	4405	4505	9	963	972
1973	126	9680	9806	117	4510	4627	18	887	905
1974	175	7818	7993	127	3928	4055	20	826	846
1975	229	7304	7533	139	3949	4088	25	760	785
1976	300	6560	6860	197	4012	4209	15	684	699
1977	466	6755	7221	217	3906	4123	21	664	685
1978	829	7157	7986	288	4143	4431	13	649	662

appendixes

- A. Field Definitions for a Study of Master's Degrees in the United States**
- B. Detailed Statistical Tables
Age Distributions
for Graduates Earning
Master's Degrees**
- C. Detailed Statistical Tables
Distributions of Ages at which
Master's-Holders Earned
Ph.D. Degrees**
- D. Detailed Statistical Tables
Mortality Rates**
- E. Detailed Statistical Tables
Age Distribution of
Science and Engineering
Master's Graduates**

field definitions for a study of master's degrees in the united states

part I. — comparisons among NCES coding, specifications from "the great american degree machine" (adkins, 1975) and this study

STUDY CODE	ADKINS CODE	NCES CODE	CONTAINS NCES CATEGORIES:
MATH	1	1700	SERIES NAME FOR "MATHEMATICS AND STATISTICS" CONTAINING NCES CODES: 1701-1799 INCLUSIVE.
		1701	MATHEMATICS, GENERAL
		1702	STATISTICS, MATHEMATICAL & THEORETICAL
		1703	APPLIED MATHEMATICS
		1799	OTHER MATHEMATICS
CAIS	2	0700	SERIES NAME FOR "COMPUTER & INFORMATION SCIENCES" CONTAINING NCES CODES: 701-799 INCLUSIVE.
		701	COMPUTER AND INFORMATION SCIENCES, GENERAL
		702	INFORMATION SCIENCES AND SYSTEMS
		703	DATA PROCESSING
		704	COMPUTER PROGRAMMING
		705	SYSTEMS ANALYSIS
		799	OTHER COMPUTER & INFORMATION SCIENCES
CHEM	5	—	SERIES NAMES FOR "CHEMISTRY" CONTAINING NCES CODES: 1905-1910 AND 1920 INCLUSIVE.
		1905	CHEMISTRY, GENERAL
		1906	INORGANIC CHEMISTRY
		1907	ORGANIC CHEMISTRY
		1908	PHYSICAL CHEMISTRY
		1909	ANALYTICAL CHEMISTRY
		1910	PHARMACEUTICAL CHEMISTRY
		1920	METALLURGY
EART	6	—	SERIES NAME FOR "EARTH SCIENCES" CONTAINING NCES CODES: 1913-1919 AND 1999/1 INCLUSIVE.
		1913	ATMOSPHERIC SCIENCES & METEOROLOGY
		1914	GEOLOGY
		1915	GEOCHEMISTRY
		1916	GEOPHYSICS AND SEISMOLOGY
		1917	EARTH SCIENCE, GENERAL
		1918	PALEONTOLOGY
		1919	OCEANOGRAPHY
		1999-1	OTHER EARTH SCIENCES
PHYS	7	—	SERIES NAME FOR "PHYSICS" CONTAINING NCES CODES: 1902-1904 AND 1911-1912 INCLUSIVE.
		1902	PHYSICS, GENERAL
		1903	MOLECULAR PHYSICS
		1904	NUCLEAR PHYSICS
		1911	ASTRONOMY
		1912	ASTROPHYSICS

PSNC	8	----	SERIES NAME FOR "OTHER PHYSICAL SCIENCES" CONTAINING NCES CODES: 1901 AND 1999/2
	1901		PHYSICAL SCIENCES, GENERAL
	1999-2		PHYSICAL SCIENCES, OTHER
CMEN	10	----	SERIES NAME FOR "CHEMICAL-MATERIALS ENGINEERING" CONTAINING NCES CODES: 0906, AND 0914-0916 INCLUSIVE.
	0906		CHEMICAL ENGINEERING
	0914		METALLURGICAL
	0915		MATERIALS ENGINEERING
	0916		CERAMIC ENGINEERING
CIEN	11	----	SERIES NAME FOR "CIVIL & OTHER HEAVY ENGINEERING" CONTAINING NCES CODES: 0903-0904, 0908, AND 0922 INCLUSIVE.
	0903		AGRICULTURAL ENGINEERING
	0904		ARCHITECTURAL ENGINEERING
	0908		CIVIL, CONSTRUCTION & TRANSPORTATION ENGINEERING
	0922		ENVIRONMENTAL & SAFETY ENGINEERING
ELEC	12	0909	SERIES NAME FOR "ELECTRICAL, ELECTRONIC & COMMUNICATIONS ENGINEERING" (NCES CODE 0909)
MINE	13	----	SERIES NAME FOR "GEOLOGICAL-MINING ENGINEERING" CONTAINING NCES CODES: 0907, 0911, 0912, 0918, AND 0924 INCLUSIVE.
	0907		PETROLEUM ENGINEERING
	0911		GEOLOGICAL ENGINEERING
	0912		GEOPHYSICAL ENGINEERING
	0918		MINING AND MINERAL ENGINEERING
	0924		OCEAN ENGINEERING
MECH	14	----	SERIES NAME FOR "MECHANICAL-EQUIPMENT ENGINEERING" CONTAINING NCES CODES: 0902, 0910, 0923 INCLUSIVE.
	0902		AEROSPACE, AERONAUTICAL & ASTRONAUTICAL ENGINEERING
	0910		MECHANICAL ENGINEERING
	0923		NAVAL ARCHITECTURE & MARINE ENGINEERING
ENNC	15	----	SERIES NAME FOR "OTHER ENGINEERING SPECIALTIES" CONTAINING NCES CODES: 0901, 0905, 0917, 0919-0921, AND 0999 INCLUSIVE. NOTE THAT NCES CODES 0925 (ENGINEERING TECHNOLOGIES) AND 1303 (CLOTHING AND TEXTILES) HAVE BEEN SUBTRACTED FROM THE ORIGINAL ADKINS GROUP 15 AND 0913 (INDUSTRIAL & ENGINEERING MANAGEMENT) IS ADDED TO ADKINS GROUP 15.
	0901		ENGINEERING, GENERAL
	0905		BIOENGINEERING AND BIOMEDICAL ENGINEERING
	0917		TEXTILE ENGINEERING
	0919		ENGINEERING PHYSICS
	0920		NUCLEAR ENGINEERING
	0921		ENGINEERING MECHANICS
	0999		ENGINEERING, OTHER
	0913		INDUSTRIAL & MANAGEMENT ENGINEERING

BIOL 16 0400 SERIES NAME FOR "BIOLOGICAL SCIENCES" CONTAINING THE SUM
OF NCES CODES 0401-0499 INCLUSIVE.

0401 BIOLOGY
0402 BOTANY
0403 BACTERIOLOGY
0404 PLANT PATHOLOGY
0405 PLANT PHARMACOLOGY
0406 PLANT PHYSIOLOGY
0407 ZOOLOGY
0408 PATHOLOGY
0409 PHARMACOLOGY
0410 PHYSIOLOGY
0411 MICROBIOLOGY
0412 ANATOMY
0413 HISTOLOGY
0414 BIOCHEMISTRY
0415 BIOPHYSICS
0416 MOLECULAR BIOLOGY
0417 CELLULAR BIOLOGY
0418 MARINE BIOLOGY
0419 BIostatISTICS
0420 ECOLOGY
0421 ENTOMOLOGY
0422 GENETICS
0423 RADIOBIOLOGY
0424 NUTRITION, SCIENTIFIC
0425 NEUROSCIENCES
0426 TOXICOLOGY
0427 EMBRYOLOGY
0499 OTHER BIOLOGICAL SCIENCES

AGRI 17 0100 SERIES NAME FOR "AGRICULTURAL SCIENCES" CONTAINING
NCES CODES 0101-0199 INCLUSIVE EXCEPT FOR 0111
(AGRICULTURAL ECONOMICS) WHICH MUST BE ACCOUNTED
FOR TO SUM TO NCES CODE 0100 AFTER 1970. THIS
CATEGORY IS EQUIVALENT TO ADKINS CODE 17 UP TO 1948
(BUT IS NOT A CONSISTENT SERIES WITH NCES CODE
0100).

0101 AGRICULTURE, GENERAL
0102 AGRONOMY
0103 SOILS SCIENCE
0104 ANIMAL SCIENCE
0105 DAIRY SCIENCE
0106 POULTRY SCIENCE
0107 FISH, GAME & WILDLIFE MANAGEMENT
0108 HORTICULTURE
0109 ORNAMENTAL CULTURE
0110 AGRICULTURAL & FARM MANAGEMENT
0112 AGRICULTURAL BUSINESS
0113 FOOD SCIENCE & TECHNOLOGY
0114 FORESTRY
0115 NATURAL RESOURCES MANAGEMENT
0116 AGRICULTURAL & FORESTRY TECHNOLOGIES
0117 RANGE MANAGEMENT
0199 OTHER AGRICULTURE & NATURAL RESOURCE

SOSI

SERIES NAME FOR "SOCIAL SCIENCES" CONTAINING NCES CODES 2202-2204, 0517, 0111, 2206-2208, 2215, AND 1505 INCLUSIVE. THIS IS EQUAL TO THE SUM OF NCES CODES FOR ANTHROPOLOGY, ECONOMICS, POLITICAL SCIENCE, SOCIOLOGY, DEMOGRAPHY, GEOGRAPHY & LINGUISTICS

PSYC

35

2000

SERIES NAME FOR "PSYCHOLOGY" CONTAINING NCES CODES 2001-2099 INCLUSIVE. SOCIAL PSYCHOLOGY (NCES 2005) HAS BEEN ADDED TO ADKINS SERIES 35.

2001

PSYCHOLOGY, GENERAL

2002

EXPERIMENTAL PSYCHOLOGY

2003

CLINICAL PSYCHOLOGY

2004

COUNSELING PSYCHOLOGY

2005

SOCIAL PSYCHOLOGY

2006

PSYCHOMETRICS

2007

STATISTICS IN PSYCHOLOGY

2008

INDUSTRIAL PSYCHOLOGY

2009

DEVELOPMENTAL PSYCHOLOGY

2010

PHYSIOLOGICAL PSYCHOLOGY

2099

OTHER PSYCHOLOGY

0822

EDUCATIONAL PSYCHOLOGY

INTR

SERIES NAME FOR "INTERDISCIPLINARY STUDIES" CONTAINING NCES CODES: 4902 (BIOLOGICAL AND PHYSICAL SCIENCE) AND 4904 (ENGINEERING AND OTHER DISCIPLINES).

part II. — comparisons among the NAS/NRC coding, specifications from "the great american degree machine" (adkins, 1975) and this study

STUDY ADKINS NAS/NRC CONTAINS NAS/NRC CATEGORIES:
CODE CODE CODE

MATH	1		GROUP NAME FOR "MATHEMATICS AND STATISTICS" CONTAINING NAS/NRC CODES: 000-099 INCLUSIVE
		000	ALGEBRA
		010	ANALYSIS & FUNCTIONAL ANALYSIS
		020	GEOMETRY
		030	LOGIC
		040	NUMBER THEORY
		050	PROBABILITY & MATH. STATISTICS
		060	TOPOLOGY
		080	COMPUTING THEORY & PRACTICE
		085	APPLIED MATHEMATICS
		082	OPERATIONS RESEARCH
		098	MATHEMATICS, GENERAL
		099	OTHER MATHEMATICS
CAIS	2	079	GROUP NAME FOR "COMPUTER & INFORMATION SCIENCES" CONTAINING NAS/NRC CODE 079 ONLY
CHEM	5		GROUP NAMES FOR "CHEMISTRY" CONTAINING NAS/NRC CODES: 200-299 INCLUSIVE
		200	ANALYTICAL CHEMISTRY
		210	INORGANIC CHEMISTRY
		220	ORGANIC CHEMISTRY
		230	NUCLEAR CHEMISTRY
		240	PHYSICAL CHEMISTRY
		250	THEORETICAL CHEMISTRY
		260	AGRICULTURAL & FOOD CHEMISTRY
		270	PHARMACEUTICAL CHEMISTRY
		275	POLYMER CHEMISTRY
		298	CHEMISTRY, GENERAL
		299	CHEMISTRY, OTHER
EART	6		GROUP NAME FOR "EARTH SCIENCES" CONTAINING NAS/NRC CODES: 301-399 INCLUSIVE
		301	MINERALOGY, PETROLOGY
		305	GEOCHEMISTRY
		310	STRATIGRAPHY, SEDIMENTATION
		320	PALEONTOLOGY
		330	STRUCTURAL GEOLOGY
		341	GEOPHYSICS
		350	GEOMORPH. & GLACIAL GEOLOGY
		391	APPLIED GEOL., GEOL. ENGINEERING & ECON. GEOL.
		395	FUEL TECH. & PETROL. ENGINEERING
		360	HYDROLOGY & WATER RESOURCES
		370	OCEANOGRAPHY
		397	MARINE SCIENCES, OTHER
		381	ATMOSPHERIC PHYSICS & CHEMISTRY
		382	ATMOSPHERIC DYNAMICS
		383	ATMOSPHERIC SCIENCES, OTHER
		388	ENVIRONMENTAL SCIENCES, GENERAL
		389	ENVIRONMENTAL SCIENCES, OTHER
		398	EARTH SCIENCE, GENERAL
		399	OTHER EARTH SCIENCES

PHYS 7

GROUP NAME FOR "PHYSICS" CONTAINING NAS/NRC CODES:
101-199 INCLUSIVE
101 ASTRONOMY
102 ASTROPHYSICS
110 ATOMIC AND MOLECULAR PHYSICS
120 ELECTROMAGNETISM
132 ACOUSTICS
134 FLUIDS
135 PLASMA
136 OPTICS
138 THERMAL
140 ELEMENTARY PARTICLES
150 NUCLEAR STRUCTURE
160 SOLID STATE
198 PHYSICS, GENERAL
199 PHYSICS, OTHER

EALL

GROUP NAME FOR "ENGINEERING" CONTAINING
NAS/NRC CODES: 400-499 INCLUSIVE
400 AEROSPACE, AERONAUTICAL & ASTRONAUTICAL ENGINEERING
410 AGRICULTURAL ENGINEERING
415 BIOENGINEERING AND BIOMEDICAL ENGINEERING
420 CIVIL ENGINEERING
430 CHEMICAL ENGINEERING
435 CERAMIC ENGINEERING
437 COMPUTER ENGINEERING
440 ELECTRICAL ENGINEERING
445 ELECTRONIC ENGINEERING
450 INDUSTRIAL ENGINEERING
455 NUCLEAR ENGINEERING
460 ENGINEERING MECHANICS
465 ENGINEERING PHYSICS
470 MECHANICAL ENGINEERING
475 METALLURGICAL & PHYS. MET. ENGINEERING
476 SYSTEMS DESIGN & SYSTEMS SCIENCE
478 OPERATIONS RESEARCH
479 FUEL TECH. & PETROL. ENGINEERING
480 SANITARY & ENVIRONMENTAL ENGINEERING
486 MINING AND MINERAL ENGINEERING
497 MATERIALS ENGINEERING
498 ENGINEERING, GENERAL
499 ENGINEERING, OTHER

BIOL 16

GROUP NAME FOR "BIOLOGICAL SCIENCES" CONTAINING THE SUM
OF NAS/NRC CODES 540-579 AND 527, 534 AND 536 INCLUSIVE
527 PARASITOLOGY
534 PATHOLOGY
536 PHARMACOLOGY
540 BIOCHEMISTRY
542 BIOPHYSICS
544 BIOSTATISTICS
545 ANATOMY
546 CYTOLOGY
547 EMBRYOLOGY
548 IMMUNOLOGY

BIOL (CONT'D)

GROUP NAME FOR "BIOLOGICAL SCIENCES"

550 BOTANY
 560 ECOLOGY
 562 HYDROBIOLOGY
 564 MICROBIOLOGY & BACTERIOLOGY
 566 PHYSIOLOGY, ANIMAL
 567 PLANT PHYSIOLOGY
 569 ZOOLOGY
 570 GENETICS
 571 ENTOMOLOGY
 572 MOLECULAR BIOLOGY
 576 NUTRITION AND/OR DIETETICS
 578 BIOLOGICAL SCIENCES, GENERAL
 579 OTHER BIOLOGICAL SCIENCES

AGRI 17

GROUP NAME FOR "AGRICULTURAL SCIENCES" CONTAINING NAS/NRC CODES 500-519 INCLUSIVE EXCEPT FOR 501 (AGRICULTURAL ECONOMICS) WHICH MUST BE ACCOUNTED FOR TO SUM TO NAS/NRC CODE

500 AGRONOMY
 502 ANIMAL HUSBANDRY
 503 FOOD SCIENCE & TECHNOLOGY
 504 FISH & WILDLIFE
 505 FORESTRY
 506 HORTICULTURE
 507 SOILS & SOILS SCIENCE
 510 ANIMAL SCIENCE & NUTRITION
 511 PHYTOPATHOLOGY
 518 AGRICULTURE, GENERAL
 519 AGRICULTURE, OTHER

SOSI

GROUP NAME FOR "SOCIAL SCIENCES" CONTAINING NAS/NRC CODES 501, 700, 710-740, 832, & 835 INCLUSIVE

501 AGRICULTURAL ECONOMICS
 700 ANTHROPOLOGY
 710 SOCIOLOGY
 720 ECONOMICS
 725 ECONOMETRICS
 727 STATISTICS
 740 GEOGRAPHY
 832 ARCHEOLOGY
 835 LINGUISTICS

PSYH 35

GROUP NAME FOR "PSYCHOLOGY" CONTAINING NAS/NRC CODES 600-699 INCLUSIVE. SOCIAL PSYCHOLOGY (NAS/NRC 680) HAS BEEN ADDED TO ADKINS GROUP 35.

600 CLINICAL PSYCHOLOGY
 610 COUNSELING & GUIDANCE PSYCHOLOGY
 620 DEVELOPMENTAL & GERONTOLOGICAL PSYCHOLOGY
 630 EDUCATIONAL PSYCHOLOGY
 635 SCHOOL PSYCHOLOGY
 641 EXPERIMENTAL PSYCHOLOGY
 642 COMPARATIVE PSYCHOLOGY
 643 PHYSIOLOGICAL PSYCHOLOGY
 650 INDUSTRIAL & PERSONNEL PSYCHOLOGY
 660 PERSONALITY PSYCHOLOGY
 670 PSYCHOMETRICS
 680 SOCIAL PSYCHOLOGY
 698 PSYCHOLOGY, GENERAL

appendix b

DETAILED STATISTICAL TABLES

AGE DISTRIBUTION FOR GRADUATES EARNING MASTER'S DEGREES

I. FROM THE DOCTORAL RECORDS FILE

Page

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S DEGREE GRADUATION

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AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION

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TABLE B-1

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1950-1959, MALE & FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	2,709	14	1,318	1,041	233	63	12	1	13	14	-	-	-
Percent.....	100	1	49	38	9	2	0	0	0	1	-	-	-
CHEMISTRY.....	4,502	10	2,017	1,914	379	90	20	3	43	26	-	-	-
Percent.....	100	0	45	43	8	2	0	0	1	1	-	-	-
EARTH SCIENCE.....	1,716	3	567	875	195	43	6	-	10	17	-	-	-
Percent.....	100	0	33	51	11	3	0	-	1	1	-	-	-
PHYSICS.....	3,644	11	1,907	1,343	289	41	8	2	15	28	-	-	-
Percent.....	100	0	52	37	8	1	0	0	0	1	-	-	-
ENGINEERING.....	8,127	4	3,240	3,570	987	206	36	13	29	42	-	-	-
Percent.....	100	0	40	44	12	3	0	0	0	1	-	-	-
BIOLOGICAL SCIENCE..	7,255	12	2,324	3,547	977	247	58	13	44	33	-	-	-
Percent.....	100	0	32	49	13	3	1	0	1	0	-	-	-
AGRICULTURAL SCIENCE	3,711	2	862	1,984	617	142	39	10	32	23	-	-	-
Percent.....	100	0	23	53	17	4	1	0	1	1	-	-	-
SOCIAL SCIENCE.....	6,676	18	1,992	3,006	1,085	358	113	30	40	34	-	-	-
Percent.....	100	0	30	45	16	5	2	0	1	1	-	-	-
PSYCHOLOGY.....	5,492	5	1,696	2,566	737	303	101	42	31	11	-	-	-
Percent.....	100	0	31	47	13	6	2	1	1	0	-	-	-

- Data not available.

TABLE B-2

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1950-1959, FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	209	-	95	64	27	18	3	-	1	1	-	-	-
Percent.....	100	-	45	31	13	9	1	-	0	0	-	-	-
CHEMISTRY.....	361	-	170	112	51	21	4	-	1	2	-	-	-
Percent.....	100	-	47	31	14	6	1	-	0	1	-	-	-
EARTH SCIENCE.....	28	-	7	15	4	-	-	-	-	2	-	-	-
Percent.....	100	-	25	54	14	-	-	-	-	7	-	-	-
PHYSICS.....	82	-	47	24	6	2	-	-	2	1	-	-	-
Percent.....	100	-	57	29	7	2	-	-	2	1	-	-	-
ENGINEERING.....	34	1	13	17	3	-	-	-	-	-	-	-	-
Percent.....	100	3	38	50	9	-	-	-	-	-	-	-	-
BIOLOGICAL SCIENCE..	1,032	2	418	370	137	60	24	6	5	10	-	-	-
Percent.....	100	0	41	36	13	6	2	1	0	1	-	-	-
AGRICULTURAL SCIENCE	50	-	16	23	4	4	-	-	1	1	-	-	-
Percent.....	100	-	32	46	8	8	2	-	2	2	-	-	-
SOCIAL SCIENCE.....	680	1	260	233	86	67	23	4	4	0	-	-	-
Percent.....	100	0	38	34	13	10	3	1	1	0	-	-	-
PSYCHOLOGY.....	1,134	1	388	377	155	117	54	28	9	5	-	-	-
Percent.....	100	0	34	33	14	10	5	2	1	0	-	-	-

- Data not available.

TABLE B-3

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1950-1959, MALE OR UNKNOWN

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	2,500	14	1,223	977	206	45	9	1	12	13	-	-	-
Percent.....	100	1	49	39	8	2	0	0	0	1	-	-	-
CHEMISTRY.....	4,141	10	1,847	1,802	328	69	16	3	42	24	-	-	-
Percent.....	100	0	45	44	8	2	0	0	1	1	-	-	-
EARTH SCIENCE.....	1,688	3	560	860	191	43	6	-	10	15	-	-	-
Percent.....	100	0	33	51	11	3	0	-	1	1	-	-	-
PHYSICS.....	3,562	11	1,860	1,319	283	39	8	2	13	27	-	-	-
Percent.....	100	0	52	37	8	1	0	0	0	1	-	-	-
ENGINEERING.....	8,093	3	3,227	3,553	984	206	36	13	29	42	-	-	-
Percent.....	100	0	40	44	12	3	0	0	0	1	-	-	-
BIOLOGICAL SCIENCE..	6,223	10	1,906	3,177	840	187	34	7	39	23	-	-	-
Percent.....	100	0	31	51	13	3	1	0	1	0	-	-	-
AGRICULTURAL SCIENCE	3,661	2	846	1,961	613	138	38	10	31	22	-	-	-
Percent.....	100	0	23	54	17	4	1	0	1	1	-	-	-
SOCIAL SCIENCE.....	5,996	17	1,732	2,773	999	291	90	26	36	32	-	-	-
Percent.....	100	0	29	46	17	5	2	0	1	1	-	-	-
PSYCHOLOGY.....	4,358	4	1,308	2,189	582	186	47	14	22	6	-	-	-
Percent.....	100	0	30	50	13	4	1	0	1	0	-	-	-

- Data not available.

TABLE B-4

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1960-1969, MALE & FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	9,300	20	4,927	3,491	632	151	34	18	3	-	20	4	-
Percent.....	100	0	53	38	7	2	0	0	0	-	0	0	-
COMPUTER SCIENCE.....	5	-	2	1	1	1	-	-	-	-	-	-	-
Percent.....	100	-	40	20	20	20	-	-	-	-	-	-	-
CHEMISTRY.....	7,430	11	2,994	3,581	607	144	50	14	2	-	22	5	-
Percent.....	100	0	40	48	8	2	1	0	0	-	0	0	-
EARTH SCIENCE.....	3,404	2	1,046	1,846	380	91	23	7	0	-	6	3	-
Percent.....	100	0	31	54	11	3	1	0	-	-	0	0	-
PHYSICS.....	9,467	27	4,789	3,880	592	121	31	8	3	-	13	3	-
Percent.....	100	0	51	41	6	1	0	0	0	-	0	0	-
ENGINEERING.....	26,324	11	10,983	12,184	2,306	492	164	50	6	2	102	24	-
Percent.....	100	0	42	46	9	2	1	0	0	0	0	0	-
BIOLOGICAL SCIENCE..	16,161	9	5,083	8,400	1,916	480	145	51	12	0	46	15	-
Percent.....	100	0	31	52	12	3	1	0	0	-	0	0	-
AGRICULTURAL SCIENCE	6,999	7	1,835	3,717	1,062	258	68	13	0	0	35	3	-
Percent.....	100	0	26	53	15	4	1	0	-	-	1	0	-
SOCIAL SCIENCE.....	16,855	8	5,618	7,939	2,026	716	288	139	36	10	48	27	-
Percent.....	100	0	33	47	12	4	2	1	0	0	0	0	-
PSYCHOLOGY.....	12,587	4	4,441	5,832	1,346	527	270	100	36	3	16	12	-
Percent.....	100	0	35	46	11	4	2	1	0	0	0	0	-

- Data not available.

TABLE B-5

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1960-1969, FEMALE.

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	825	3	439	237	84	40	11	6	1				
Percent.....	100	0	53	29	10	5	1	1	0				
CHEMISTRY.....	770	2	349	311	56	29	19	2					
Percent.....	100	0	45	40	7	4	2	0					
EARTH SCIENCE.....	106	-	42	44	9	9	2						
Percent.....	100	-	40	42	8	8	2						
PHYSICS.....	337	2	205	101	17	7	3	1					
Percent.....	100	1	61	30	5	2	1	0					
ENGINEERING.....	144	-	72	55	11	3	1	1					
Percent.....	100	-	50	38	8	2	1	1					
BIOLOGICAL SCIENCE.....	2,665	-	1,112	1,087	223	139	63	24	5	2			
Percent.....	100	-	42	41	8	5	2	1	0	1			
AGRICULTURAL SCIENCE.....	142	-	51	65	15	5	4	2					
Percent.....	100	-	36	46	11	3	3	1					
SOCIAL SCIENCE.....	2,286	1	904	834	226	156	101	41	11	2			
Percent.....	100	0	40	36	10	7	4	2	0	1			
PSYCHOLOGY.....	2,845	-	1,096	987	276	244	153	56	24	0			
Percent.....	100	-	39	35	10	9	5	2	1	0			

- Data not available.

TABLE B-6

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1960-1969, MALE OR UNKNOWN

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	8,475	17	4,488	3,254	548	141	23	12	2		16	4	
Percent.....	100	0	53	38	6	1	0	0	0		0	0	
COMPUTER SCIENCE.....	5	-	2	1	1	1							
Percent.....	100	-	40	20	20	20							
CHEMISTRY.....	6,668	9	2,645	3,270	551	115	31	12	2		21	4	
Percent.....	100	0	40	49	8	2	0	0	0		0	0	
EARTH SCIENCE.....	3,288	2	1,004	1,802	371	102	21	7			6	3	
Percent.....	100	0	30	55	11	3	1	0			0	0	
PHYSICS.....	9,130	25	4,584	3,779	575	114	28	7	3		12	3	
Percent.....	100	0	50	41	6	1	0	0	0		0	0	
ENGINEERING.....	26,380	11	10,911	12,129	2,293	489	163	49	6		101	24	
Percent.....	100	0	42	46	9	2	1	0	0		0	0	
BIOLOGICAL SCIENCE.....	13,496	9	5,971	7,313	1,693	341	82	27	0		40	11	
Percent.....	100	0	44	54	13	3	1	0	0		0	0	
AGRICULTURAL SCIENCE.....	9,857	7	1,789	3,652	1,047	255	64	11	0		54	0	
Percent.....	100	0	18	37	11	3	1	0	0		0	0	
SOCIAL SCIENCE.....	14,569	0	4,718	7,105	1,800	560	187	98	25		41	0	
Percent.....	100	0	32	49	12	4	1	1	0		0	0	
PSYCHOLOGY.....	9,742	4	3,345	4,845	1,070	283	117	44	12		12	0	
Percent.....	100	0	34	50	11	3	1	0	0		0	0	

- Data not available.

TABLE B-7

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1970-1978, MALE & FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	3,033	3	1,446	1,335	195	34	7	4	1	1	1	-	6
Percent.....	100	0	48	44	6	1	0	0	0	0	0	-	0
COMPUTER SCIENCE....	91	1	40	44	4	1	-	-	-	-	-	-	1
Percent.....	100	1	44	48	4	1	-	-	-	-	-	-	1
CHEMISTRY.....	2,658	1	933	1,445	230	28	12	3	-	1	-	-	5
Percent.....	100	0	35	54	9	1	0	0	-	0	-	-	0
EARTH SCIENCE.....	1,570	-	441	908	173	28	10	5	2	-	1	-	2
Percent.....	100	-	28	58	11	2	1	3	0	-	0	-	0
PHYSICS.....	3,052	5	1,291	1,509	207	24	6	4	3	-	-	-	3
Percent.....	100	0	42	49	7	1	0	0	0	-	-	-	0
ENGINEERING.....	8,823	-	3,417	4,434	728	141	43	12	6	4	-	-	38
Percent.....	100	-	39	50	8	2	0	0	0	0	-	-	0
BIOLOGICAL SCIENCE..	6,115	1	1,749	3,468	681	128	55	14	4	0	-	-	14
Percent.....	100	0	29	57	11	2	1	0	0	0	-	-	0
AGRICULTURAL SCIENCE	2,744	-	561	1,601	455	92	23	3	1	0	-	-	7
Percent.....	100	-	20	58	17	3	1	0	0	0	-	-	0
SOCIAL SCIENCE.....	7,541	1	2,175	3,925	978	263	115	49	20	4	2	-	9
Percent.....	100	0	29	52	13	3	2	1	0	0	0	-	0
PSYCHOLOGY.....	8,701	-	2,686	4,645	803	288	155	83	28	4	-	-	9
Percent.....	100	-	31	53	9	3	2	1	0	0	-	-	0

- Data not available.

TABLE B-8

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1970-1978, FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	419	-	231	150	26	6	3	2	-	-	-	-	1
Percent.....	100	-	55	36	6	1	1	0	-	-	-	-	0
COMPUTER SCIENCE....	9	-	5	4	-	-	-	-	-	-	-	-	-
Percent.....	100	-	56	44	-	-	-	-	-	-	-	-	-
CHEMISTRY.....	369	-	168	163	29	4	4	1	-	-	-	-	-
Percent.....	100	-	46	44	8	1	1	0	-	-	-	-	-
EARTH SCIENCE.....	119	-	57	48	10	3	1	-	-	-	-	-	-
Percent.....	100	-	48	40	8	3	1	-	-	-	-	-	-
PHYSICS.....	182	-	88	78	15	1	-	-	-	-	-	-	-
Percent.....	100	-	48	43	8	1	-	-	-	-	-	-	-
ENGINEERING.....	181	-	89	76	14	-	1	-	-	-	-	-	1
Percent.....	100	-	49	42	8	-	1	-	-	-	-	-	1
BIOLOGICAL SCIENCE..	1,324	-	484	634	123	43	29	5	2	1	-	-	3
Percent.....	100	-	37	48	9	3	2	0	0	0	-	-	0
AGRICULTURAL SCIENCE	157	-	40	91	19	4	2	-	-	0	-	-	-
Percent.....	100	-	25	58	12	3	1	-	-	0	-	-	-
SOCIAL SCIENCE.....	1,561	-	542	696	157	84	50	20	10	1	-	-	1
Percent.....	100	-	35	45	10	5	3	1	1	0	-	-	0
PSYCHOLOGY.....	2,679	-	946	1,177	240	147	94	57	13	2	-	-	3
Percent.....	100	-	35	44	9	5	4	2	0	0	-	-	0
Percent.....	100	-	21	36	10	6	1	1	0	0	-	-	25

- Data not available.

TABLE B-9

AGE DISTRIBUTION OF PH.D.-HOLDERS AT MASTER'S-DEGREE GRADUATION: 1970-1978, MALE OR UNKNOWN

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MATH-STAT.....	2,614	3	1,215	1,185	169	28	4	2	1	1	1	-	5
Percent.....	100	0	46	45	6	1	0	0	0	0	0	-	0
COMPUTER SCIENCE.....	82	1	35	40	4	1	-	-	-	-	-	-	1
Percent.....	100	1	43	49	5	1	-	-	-	-	-	-	1
CHEMISTRY.....	2,289	1	765	1,282	201	24	8	2	-	1	-	-	5
Percent.....	100	0	33	56	9	1	0	0	-	0	-	-	0
EARTH SCIENCE.....	1,451	-	384	860	163	25	9	5	2	-	1	-	2
Percent.....	100	-	26	59	11	2	1	3	0	-	0	-	0
PHYSICS.....	2,870	5	1,203	1,431	192	23	6	0	3	-	-	-	3
Percent.....	100	0	42	50	7	1	0	0	0	-	-	-	0
ENGINEERING.....	8,642	-	3,328	4,358	714	141	42	12	6	4	-	-	37
Percent.....	100	-	39	50	8	2	0	0	0	0	-	-	0
BIOLOGICAL SCIENCE.....	4,791	1	1,265	2,834	558	85	26	9	2	-	-	-	11
Percent.....	100	0	26	59	12	2	1	0	0	-	-	-	0
AGRICULTURAL SCIENCE.....	2,587	-	521	1,510	436	88	21	3	1	-	-	-	7
Percent.....	100	-	20	58	17	3	1	0	0	-	-	-	0
SOCIAL SCIENCE.....	5,980	1	1,633	3,229	821	179	65	29	10	3	2	-	8
Percent.....	100	0	27	54	14	3	1	0	0	0	0	-	0
PSYCHOLOGY.....	6,022	-	1,740	3,468	563	141	61	26	15	-	-	-	6
Percent.....	100	-	29	58	9	2	1	0	0	0	-	-	0

- Data not available.

TABLE B-10

AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION WEIGHTED FOR 1972 GRADUATING CLASS: MALE & FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
WMTOTAL ALL FIELDS	58,167	-	18,421	25,414	7,206	3,411	1,745	817	315	178	7	-	-
Percent	100	-	32	44	12	6	3	1	1	0	0	-	-
AGRICULTURAL SCIENCES	2,175	-	629	1,080	244	99	62	-	-	12	-	-	-
Percent	100	-	29	50	11	5	3	-	-	1	-	-	-
BIOLOGICAL SCIENCES	6,968	-	1,817	3,748	967	193	208	-	-	1	-	-	-
Percent	100	-	26	54	14	3	3	-	-	-	-	-	-
ENGINEERING TOTAL	17,189	-	5,310	6,482	2,943	1,318	607	273	68	27	-	-	-
Percent	100	-	31	38	17	8	4	2	0	0	-	-	-
CHEMICAL	1,524	-	599	662	168	-	41	43	-	-	-	-	-
Percent	100	-	39	43	11	-	3	3	-	-	-	-	-
CIVIL	3,764	-	1,041	1,257	510	161	67	55	40	27	-	-	-
Percent	100	-	28	33	14	4	2	2	1	1	-	-	-
ELECTRICAL	4,696	-	1,522	1,740	821	224	235	34	27	-	-	-	-
Percent	100	-	32	37	17	5	5	1	1	-	-	-	-
MINING	120	-	27	19	19	27	27	-	-	-	-	-	-
Percent	100	-	23	16	16	23	23	-	-	-	-	-	-
MECHANICAL	3,321	-	1,003	1,403	504	336	43	32	-	-	-	-	-
Percent	100	-	30	42	15	10	1	1	-	-	-	-	-
OTHER ENGINEERING	4,339	-	1,118	1,401	921	570	193	110	-	-	-	-	-
Percent	100	-	26	32	21	13	4	3	-	-	-	-	-
MATHEMATICS	4,988	-	2,177	1,896	480	168	94	55	63	-	-	-	-
Percent	100	-	44	38	10	3	2	1	1	-	-	-	-
COMPUTER SCIENCE	1,979	-	623	968	315	27	-	17	29	-	-	-	-
Percent	100	-	31	49	16	1	-	1	1	-	-	-	-
PHYSICS	2,398	-	37	46	10	5	1	1	0	-	0	-	-
Percent	100	-	1	2	0	0	0	0	0	-	0	-	-
CHEMISTRY	2,167	-	931	1,018	90	95	27	-	7	-	-	-	-
Percent	100	-	43	47	4	4	1	-	0	-	-	-	-
EARTH SCIENCES	1,401	-	452	806	92	20	-	24	-	-	7	-	-
Percent	100	-	32	58	7	1	-	2	-	-	0	-	-
OTHER PHYSICAL SCIENCES	235	-	33	89	23	64	7	20	-	-	-	-	-
Percent	100	-	14	38	10	27	3	8	-	-	-	-	-
SOCIAL SCIENCES	12,608	-	3,639	5,798	1,038	1,141	382	300	103	-	-	-	-
Percent	100	-	29	46	8	9	3	2	1	-	-	-	-
PSYCHOLOGY	5,305	-	1,738	2,359	497	173	271	129	46	-	-	-	-
Percent	100	-	33	44	9	3	5	2	1	-	-	-	-
OTHER	753	-	213	211	122	-	69	-	-	138	-	-	-
Percent	100	-	28	28	16	-	9	-	-	18	-	-	-

- Data not available.

TABLE B-11

AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION WEIGHTED FOR 1972 GRADUATING CLASS: MALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
MMTOTAL ALL FIELDS..	47,569	-	14,671	21,825	6,303	2,595	995	636	146	40	7	-	-
Percent.....	100	-	31	46	13	5	2	1	0	0	0	-	-
AGRICULTURAL SCIENCES..	2,080	-	615	1,013	244	99	49	-	-	12	-	-	-
Percent.....	100	-	30	49	12	5	2	-	-	1	-	-	-
BIOLOGICAL SCIENCES..	4,714	-	1,145	2,738	721	41	35	-	-	-	-	-	-
Percent.....	100	-	24	58	15	1	1	-	-	-	-	-	-
ENGINEERING TOTAL..	16,854	-	5,174	6,394	2,886	1,318	580	245	68	27	-	-	-
Percent.....	100	-	31	38	17	8	3	1	0	0	-	-	-
CHEMICAL	1,471	-	544	662	168	-	41	43	-	-	-	-	-
Percent.....	100	-	37	45	11	-	3	3	-	-	-	-	-
CIVIL	3,051	-	1,014	1,243	470	161	40	27	40	27	-	-	-
Percent.....	100	-	33	41	15	5	1	1	1	1	-	-	-
ELECTRICAL	4,696	-	1,522	1,740	821	224	235	34	27	-	-	-	-
Percent.....	100	-	32	37	17	5	5	1	1	-	-	-	-
MINING	120	-	27	19	19	27	27	-	-	-	-	-	-
Percent.....	100	-	23	16	16	23	23	-	-	-	-	-	-
MECHANICAL	3,289	-	1,003	1,387	488	336	43	32	-	-	-	-	-
Percent.....	100	-	30	42	15	10	1	1	-	-	-	-	-
OTHER ENGINEERING	4,224	-	1,063	1,343	921	570	193	110	-	-	-	-	-
Percent.....	100	-	25	32	22	13	5	3	-	-	-	-	-
MATHEMATICS	3,588	-	1,480	1,453	382	136	27	55	-	-	-	-	-
Percent.....	100	-	41	40	11	4	1	2	-	-	-	-	-
COMPUTER SCIENCE	1,715	-	563	822	286	27	-	17	-	-	-	-	-
Percent.....	100	-	33	48	17	4	-	1	-	-	-	-	-
PHYSICS	2,291	-	806	924	395	95	18	-	0	-	0	-	-
Percent.....	100	-	35	40	17	4	1	-	-	-	-	-	-
CHEMISTRY	1,675	-	731	806	90	42	-	-	7	-	-	-	-
Percent.....	100	-	44	48	5	2	-	-	0	-	-	-	-
EARTH SCIENCES	1,279	-	413	726	88	20	-	24	-	-	7	-	-
Percent.....	100	-	32	57	7	2	-	2	-	-	1	-	-
OTHER PHYSICAL SCIENCES	228	-	33	85	19	64	7	20	-	-	-	-	-
Percent.....	100	-	15	37	8	28	3	9	-	-	-	-	-
SOCIAL SCIENCES	9,643	-	2,747	4,813	852	679	243	238	72	-	-	-	-
Percent.....	100	-	28	50	9	7	3	2	1	-	-	-	-
PSYCHOLOGY	3,230	-	952	1,911	220	73	37	37	-	-	-	-	-
Percent.....	100	-	29	59	7	2	1	1	-	-	-	-	-
OTHER	272	-	12	141	119	-	-	-	-	-	-	-	-
Percent.....	100	-	4	52	44	-	-	-	-	-	-	-	-

- Data not available.

TABLE B-12

AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION WEIGHTED FOR 1972 GRADUATING CLASS: FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
UNTOTAL ALL FIELDS..	10,598	-	3,749	3,589	903	817	721	182	169	138	-	-	-
Percent.....	100	-	35	34	9	8	7	2	2	1	-	-	-
AGRICULTURAL SCIENCES.....	95	-	14	68	-	-	14	-	-	-	-	-	-
Percent.....	100	-	14	71	-	-	14	-	-	-	-	-	-
BIOLOGICAL SCIENCES..	2,254	-	672	1,011	246	152	173	-	-	-	-	-	-
Percent.....	100	-	30	45	11	7	8	-	-	-	-	-	-
ENGINEERING TOTAL....	335	-	137	88	84	-	27	27	-	-	-	-	-
Percent.....	100	-	41	26	17	-	8	8	-	-	-	-	-
CHEMICAL	55	-	55	-	-	-	-	-	-	-	-	-	-
Percent.....	100	-	100	-	-	-	-	-	-	-	-	-	-
CIVIL	135	-	27	13	40	-	27	27	-	-	-	-	-
Percent.....	100	-	20	10	30	-	20	20	-	-	-	-	-
ELECTRICAL	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent.....	-	-	-	-	-	-	-	-	-	-	-	-	-
MINING	-	-	-	-	-	-	-	-	-	-	-	-	-
Percent.....	-	-	-	-	-	-	-	-	-	-	-	-	-
MECHANICAL	32	-	-	16	16	-	-	-	-	-	-	-	-
Percent.....	100	-	-	50	50	-	-	-	-	-	-	-	-
OTHER ENGINEERING	113	-	55	58	50	-	-	-	-	-	-	-	-
Percent.....	100	-	48	52	-	-	-	-	-	-	-	-	-
MATHEMATICS	1,400	-	697	443	98	32	67	-	63	-	-	-	-
Percent.....	100	-	50	32	7	2	5	-	5	-	-	-	-
COMPUTER SCIENCE	264	-	60	146	29	-	-	-	29	-	-	-	-
Percent.....	100	-	23	55	11	-	-	-	11	-	-	-	-
PHYSICS	107	-	40	45	-	10	4	-	-	-	-	-	-
Percent.....	100	-	34	36	-	18	-	-	-	-	-	-	-
CHEMISTRY	492	-	50	33	-	17	-	-	-	-	-	-	-
Percent.....	100	-	200	213	-	53	27	-	-	-	-	-	-
EARTH SCIENCES	122	-	41	43	4	11	5	-	-	-	-	-	-
Percent.....	100	-	32	65	3	-	-	-	-	-	-	-	-
OTHER PHYSICAL SCIENCES	7	-	-	4	4	-	-	-	-	-	-	-	-
Percent.....	100	-	-	50	50	-	-	-	-	-	-	-	-
SOCIAL SCIENCES	2,965	-	891	985	186	462	139	62	31	-	-	-	-
Percent.....	100	-	30	33	6	16	5	2	1	-	-	-	-
PSYCHOLOGY	2,075	-	785	447	277	100	235	92	46	-	-	-	-
Percent.....	100	-	38	22	13	5	11	4	2	-	-	-	-
OTHER	481	-	200	69	4	-	69	-	-	138	-	-	-
Percent.....	100	-	42	14	1	-	14	-	-	29	-	-	-

- Data not available.

TABLE B-13

AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION WEIGHTED FOR 1976 GRADUATING CLASS: MALE & FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	NOT REPORTED
WMTOTAL ALL FIELDS..	58,828	32	16,348	25,704	8,948	3,249	1,850	1,211	694	257	104	-	26
Percent.....	100	0	28	44	15	6	3	2	1	0	0	-	0
AGRICULTURAL SCIENCES..	2,938	-	721	1,472	542	54	67	67	13	-	-	-	-
Percent.....	100	-	25	50	18	2	2	2	0	-	-	-	-
BIOLOGICAL SCIENCES..	7,440	-	1,946	4,069	862	239	176	-	25	-	25	-	-
Percent.....	100	-	26	55	12	3	2	-	0	-	0	-	-
ENGINEERING TOTAL..	16,525	-	5,308	6,249	2,848	947	639	262	91	42	41	-	-
Percent.....	100	-	32	38	17	6	4	2	1	0	0	-	-
CHEMICAL..	1,451	-	482	608	254	26	71	11	-	-	-	-	-
Percent.....	100	-	33	42	17	2	5	1	-	-	-	-	-
CIVIL..	4,101	-	1,309	1,573	826	183	80	67	21	-	-	-	-
Percent.....	100	-	32	38	20	5	2	2	1	-	-	-	-
ELECTRICAL..	4,075	-	1,344	1,670	601	204	104	69	14	14	-	-	-
Percent.....	100	-	33	41	15	5	3	2	0	0	-	-	-
MINING..	272	-	42	175	41	-	7	-	-	-	7	-	-
Percent.....	100	-	15	64	15	-	3	-	-	-	3	-	-
MECHANICAL..	2,461	-	786	823	371	187	235	32	28	-	-	-	-
Percent.....	100	-	32	33	15	8	10	1	1	-	-	-	-
OTHER ENGINEERING..	4,164	-	1,346	1,401	755	345	142	83	28	28	34	-	-
Percent.....	100	-	32	34	18	8	3	2	1	1	1	-	-
MATHEMATICS..	3,548	-	1,397	1,546	325	104	101	24	24	-	27	-	-
Percent.....	100	-	39	44	9	3	3	1	1	-	1	-	-
COMPUTER SCIENCE..	2,954	-	661	1,321	497	219	73	121	-	-	-	-	-
Percent.....	100	-	22	45	17	7	2	4	-	-	-	-	-
PHYSICS..	1,554	-	36	47	10	3	1	1	-	0	-	-	-
Percent.....	100	-	784	578	111	28	24	-	-	-	-	-	-
CHEMISTRY..	1,643	-	540	862	141	54	30	-	-	16	-	-	-
Percent.....	100	-	33	52	9	3	2	-	-	1	-	-	-
EARTH SCIENCES..	1,618	-	473	824	212	63	-	34	-	-	-	-	-
Percent.....	100	-	29	51	13	4	-	2	-	-	-	-	-
OTHER PHYSICAL SCIENCES..	348	-	67	169	78	35	-	-	-	-	-	-	-
Percent.....	100	-	19	48	22	10	-	-	-	-	-	-	-
SOCIAL SCIENCES..	9,449	-	2,573	4,017	1,467	531	329	276	165	-	11	-	26
Percent.....	100	-	27	43	16	6	3	3	2	-	0	-	0
PSYCHOLOGY..	7,882	32	1,793	3,309	1,304	683	251	235	211	32	-	-	-
Percent.....	100	0	23	42	17	9	3	3	3	0	-	-	-
OTHER..	2,930	-	84	1,287	561	313	162	192	165	166	-	-	-
Percent.....	100	-	3	44	19	11	6	7	6	6	-	-	-

- Data not available.

TABLE R-14

AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION WEIGHTED FOR 1974 GRADUATING CLASS: MALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
WHYTOTAL ALL FIELDS..	45,470	32	13,158	20,241	7,008	2,317	1,330	697	349	74	64	-	26
Percent.....	100	0	29	44	15	5	3	2	1	0	0	-	0
AGRICULTURAL	2,528	-	551	1,302	474	54	67	67	13	-	-	-	-
Percent.....	100	-	22	51	19	2	3	3	1	-	-	-	-
BIOLOGICAL SCIENCES	5,153	-	1,357	2,800	734	87	28	-	25	-	25	-	-
Percent.....	100	-	26	54	14	2	0	-	0	-	0	-	-
ENGINEERING TOTAL	19,967	-	5,082	6,021	2,820	901	639	262	83	12	41	-	-
Percent.....	100	-	25	30	14	4	3	1	0	0	2	-	-
CHEMICAL	1,400	-	441	597	254	24	71	11	-	-	-	-	-
Percent.....	100	-	32	43	18	2	5	1	-	-	-	-	-
CIVIL	3,956	-	1,239	1,522	826	168	80	67	13	-	-	-	-
Percent.....	100	-	31	38	21	4	2	2	0	-	-	-	-
ELECTRICAL	4,020	-	1,330	1,629	601	204	104	69	14	0	-	-	-
Percent.....	100	-	33	41	15	5	3	2	0	-	-	-	-
MINING	258	-	42	161	41	-	-	-	-	-	-	-	-
Percent.....	100	-	16	62	16	-	-	-	-	-	-	-	-
MECHANICAL	2,421	-	774	823	371	159	235	32	28	-	-	-	-
Percent.....	100	-	32	34	15	7	10	1	1	-	-	-	-
OTHER ENGINEERING	3,932	-	1,236	1,289	727	345	142	83	28	28	34	-	-
Percent.....	100	-	32	33	18	9	4	2	1	1	1	-	-
MATHEMATICS	2,342	-	995	1,037	191	24	48	24	24	-	-	-	-
Percent.....	100	-	42	44	8	1	2	1	1	-	-	-	-
COMPUTER SCIENCE	2,496	-	521	1,156	414	162	73	121	-	-	-	-	-
Percent.....	100	-	21	46	17	7	3	5	-	-	-	-	-
PHYSICS	1,496	-	38	45	10	4	1	-	-	-	-	-	-
Percent.....	100	-	2	3	0	0	0	-	-	-	-	-	-
CHEMISTRY	1,292	-	51	37	7	2	2	-	-	-	-	-	-
Percent.....	100	-	4	3	0	0	0	-	-	-	-	-	-
EARTH SCIENCES	1,444	-	492	652	79	54	14	-	-	-	-	-	-
Percent.....	100	-	34	45	5	4	1	-	-	-	-	-	-
OTHER PHYSICAL SCIENCES	235	-	413	718	212	63	-	25	-	-	-	-	-
Percent.....	100	-	29	50	15	4	-	2	-	-	-	-	-
SOCIAL SCIENCES	6,695	-	40	105	64	26	-	-	-	-	-	-	-
Percent.....	100	-	17	45	27	11	-	-	-	-	-	-	-
PSYCHOLOGY	4,087	-	1,945	3,144	882	349	215	26	54	-	-	-	-
Percent.....	100	-	29	47	13	5	3	0	1	-	-	-	-
OTHER	1,916	-	1,005	1,804	644	312	64	64	97	32	-	-	-
Percent.....	100	-	25	44	16	8	2	2	2	1	-	-	-
Percent.....	100	-	-	954	382	257	162	108	54	-	-	-	-
Percent.....	100	-	-	50	20	13	8	6	3	-	-	-	-

- Data not available.

TABLE B-15

AGE DISTRIBUTION AT MASTER'S DEGREE GRADUATION WEIGHTED FOR 1976 GRADUATING CLASS: FEMALE

Field	Total	AGE AT RECEIPT OF MASTERS											NOT REPORTED
		UNDER 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	
ALL FIELDS..	13,158	-	3,190	5,463	1,940	952	520	514	345	182	38	-	-
Percent..	100	-	24	42	15	7	4	4	3	1	0	-	-
AGRICULTURAL SCIENCES..	410	-	171	171	68	-	-	-	-	-	-	-	-
Percent..	100	-	42	42	17	-	-	-	-	-	-	-	-
BIOLOGICAL SCIENCES..	2,287	-	589	1,269	126	151	151	-	-	-	-	-	-
Percent..	100	-	26	56	5	7	7	-	-	-	-	-	-
ENGINEERING TOTAL..	537	-	224	229	28	46	-	-	-	-	-	-	-
Percent..	100	-	42	43	5	9	-	-	-	-	-	-	-
CHEMICAL	61	-	40	11	-	-	-	-	-	-	-	-	-
Percent..	100	-	66	18	-	-	-	-	-	-	-	-	-
CIVIL	146	-	70	50	-	17	-	-	-	-	-	-	-
Percent..	100	-	48	35	-	12	-	-	-	-	-	-	-
ELECTRICAL	55	-	14	41	-	-	-	-	-	-	-	-	-
Percent..	100	-	25	75	-	-	-	-	-	-	-	-	-
MINING	14	-	-	14	-	-	-	-	-	-	-	-	-
Percent..	100	-	-	100	-	-	-	-	-	-	-	-	-
MECHANICAL	40	-	12	-	-	28	-	-	-	-	-	-	-
Percent..	100	-	29	-	-	71	-	-	-	-	-	-	-
OTHER ENGINEERING	232	-	91	112	28	-	-	-	-	-	-	-	-
Percent..	100	-	39	49	12	-	-	-	-	-	-	-	-
MATHEMATICS	1,204	-	402	509	134	80	54	-	-	-	27	-	-
Percent..	100	-	33	42	11	7	4	-	-	-	2	-	-
COMPUTER SCIENCE	458	-	140	165	83	57	-	-	-	-	-	-	-
Percent..	100	-	31	36	18	12	-	-	-	-	-	-	-
PHYSICS	58	-	23	39	11	-	2	1	-	2	-	-	-
Percent..	100	-	39	67	19	-	3	2	-	3	-	-	-
CHEMISTRY	352	-	48	209	62	-	16	-	-	16	-	-	-
Percent..	100	-	14	60	18	-	5	-	-	5	-	-	-
EARTH SCIENCES	174	-	59	105	-	-	-	9	-	-	-	-	-
Percent..	100	-	34	61	-	-	-	5	-	-	-	-	-
OTHER PHYSICAL SCIENCES	113	-	26	63	14	9	-	-	-	-	-	-	-
Percent..	100	-	23	56	13	8	-	-	-	-	-	-	-
SOCIAL SCIENCES	2,754	-	628	873	585	182	113	251	111	-	11	-	-
Percent..	100	-	23	32	21	7	4	9	4	-	0	-	-
PSYCHOLOGY	3,796	-	788	1,506	660	371	186	170	115	-	-	-	-
Percent..	100	-	21	40	17	10	5	4	3	-	-	-	-
OTHER	1,014	-	84	333	180	55	-	84	111	166	-	-	-
Percent..	100	-	8	33	18	5	-	8	11	16	-	-	-

- Data not available.

appendix c

DETAILED STATISTICAL TABLES

DISTRIBUTIONS OF AGES AT WHICH MASTER'S-HOLDERS EARNED PH.D. DEGREES

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AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: MATHEMATICS & STATISTICS, FEMALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S⁴⁰-HOLDERS AT PH.D. GRADUATION: MATHEMATICS & STATISTICS, FEMALE



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TABLE C-2

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: MATHEMATICS & STATISTICS, MALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																											
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
48	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
49	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
51	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
52	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
53	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
55	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
56	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
57	196	1	-	-	-	-	-	1	3	8	14	21	16	22	15	14	11	9	6	6	6	6	4	2	3	3	2	1	2
58	197	-	-	-	-	-	-	4	9	11	28	23	13	20	17	9	9	9	5	8	6	1	1	1	3	2	2	1	2
59	243	-	-	-	-	-	-	2	16	13	25	16	31	20	14	23	12	11	12	8	6	3	3	3	2	2	3	1	1
60	228	-	-	-	-	-	-	5	10	19	16	26	19	23	17	19	15	7	5	9	6	7	5	3	3	3	3	3	3
61	287	-	-	-	-	-	-	10	9	29	22	28	23	28	23	20	22	12	9	4	7	7	5	3	3	2	5	1	2
62	333	-	-	-	-	-	-	6	20	25	40	24	28	28	29	19	22	21	14	8	7	8	6	6	3	3	3	3	3
63	411	-	-	-	-	-	-	9	20	48	38	29	31	29	34	32	21	19	15	12	12	6	13	6	3	2	3	3	3
64	461	-	-	-	-	-	-	4	36	51	54	40	44	37	27	29	17	23	16	14	11	12	5	5	4	3	3	3	3
65	578	-	-	-	-	-	-	18	38	65	92	74	65	38	26	20	20	16	19	9	13	11	9	7	4	4	3	3	3
66	599	-	-	-	-	-	-	14	35	61	93	70	62	48	35	25	29	26	18	12	13	10	11	9	6	4	3	3	3
67	679	-	-	-	-	-	-	20	46	73	109	72	64	48	47	36	22	28	18	20	8	8	6	7	10	8	5	3	3
68	851	-	-	-	-	-	-	12	50	106	118	100	89	58	75	39	31	33	27	20	12	19	10	8	7	7	6	3	3
69	919	-	-	-	-	-	-	9	41	108	169	125	81	70	56	45	37	30	32	24	15	11	10	11	7	7	6	3	3
70	1E3	-	-	-	-	-	-	12	35	101	137	143	99	101	75	79	49	40	27	21	21	14	11	11	6	8	5	3	3
71	1E3	-	-	-	-	-	-	5	38	87	140	115	123	96	89	63	69	34	46	32	25	20	14	13	7	11	11	6	3
72	1E3	-	-	-	-	-	-	1	5	34	85	110	114	134	119	100	81	64	47	43	34	31	35	20	24	17	12	10	4
73	1E3	-	-	-	-	-	-	10	33	68	109	101	104	118	99	67	66	56	44	33	23	16	13	11	14	5	4	3	3
74	929	-	-	-	-	-	-	10	18	78	103	99	91	91	78	79	40	57	46	24	20	16	17	15	7	9	7	3	3
75	889	-	-	-	-	-	-	4	16	79	85	106	91	70	74	69	72	36	21	32	27	16	15	17	10	8	7	3	3
76	803	-	-	-	-	-	-	5	22	45	74	83	95	77	68	51	53	43	36	21	26	19	19	10	13	4	4	3	3
77	747	-	-	-	-	-	-	6	18	52	81	67	77	72	75	50	42	34	38	23	24	11	14	15	13	7	6	3	3
78	333	-	-	-	-	-	-	1	7	21	31	35	32	30	40	23	22	14	11	9	9	7	5	4	3	3	3	3	3

- Data not available.

TABLE C-2

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: MATHEMATICS & STATISTICS, MALE

AGE AT PH.D. GRADUATION

38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70 OR OLDER
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	1	4	2	3	3	2	2	1	1	1	1	1	1	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
12	13	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
10	11	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
8	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
19	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
21	14	13	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
20	15	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
35	20	24	17	12	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
16	13	11	14	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
16	17	15	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
16	15	17	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
19	19	10	13	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
11	14	15	13	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	5	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

TABLE C-3

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: COMPUTER SCIENCE, FEMALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																										
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
77.....	4	-	-	-	-	-	-	-	1	1	-	1	-	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-
78.....	5	-	-	-	-	-	-	-	1	-	1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: COMPUTER SCIENCE, FEMALE

AGE AT PH.D. GRADUATION																																
38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70 OR OLDER
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

TABLE C-4

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: COMPUTER SCIENCE, MALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																										
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
76.....	5	-	-	-	-	-	-	-	1	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
77.....	46	-	-	-	-	-	-	3	3	7	5	6	6	5	5	2	1	1	1	-	-	2	-	-	-	-	-	-
78.....	37	-	-	-	-	-	-	1	1	2	5	3	6	7	2	2	2	2	1	-	1	-	1	-	-	-	-	-

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: COMPUTER SCIENCE, MALE

AGE AT PH.D. GRADUATION																																
38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70 OR OL- DER
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	2	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-5

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: CHEMISTRY, FEMALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																										
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
52.....	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53.....	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54.....	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55.....	37	-	-	-	-	-	-	-	3	5	3	3	1	2	1	4	1	2	3	2	-	2	-	-	-	-	-	-
56.....	31	-	-	-	-	-	-	1	1	2	2	1	5	2	2	-	1	1	1	1	-	2	-	-	-	-	-	-
57.....	33	-	-	-	-	-	-	-	3	2	2	2	5	1	4	2	1	1	2	2	-	1	-	-	-	-	-	-
58.....	32	-	-	-	-	-	-	-	2	2	2	2	5	1	4	2	2	1	1	1	-	1	-	-	-	-	-	-
59.....	49	-	-	-	-	-	-	2	5	5	6	5	3	3	5	1	1	1	1	1	-	1	-	-	-	-	-	-
60.....	45	-	-	-	-	-	-	4	1	6	6	7	3	3	7	1	1	1	3	1	-	1	-	-	-	-	-	-
61.....	45	-	-	-	-	-	-	1	1	6	6	5	4	3	7	1	1	1	3	1	-	1	-	-	-	-	-	-
62.....	55	-	-	-	-	-	-	6	7	3	7	9	5	4	2	2	2	1	1	1	-	1	-	-	-	-	-	-
63.....	58	-	-	-	-	-	-	7	4	4	7	4	5	3	2	2	4	2	1	1	-	1	-	-	-	-	-	-
64.....	46	-	-	-	-	-	-	-	5	6	6	3	5	3	3	3	3	1	1	1	-	1	-	-	-	-	-	-
65.....	62	-	-	-	-	-	-	1	4	4	7	10	4	7	5	2	2	1	1	1	-	2	-	-	-	-	-	-
66.....	75	-	-	-	-	-	2	4	12	5	6	6	4	4	11	7	4	2	2	2	-	1	-	-	-	-	-	-
67.....	60	-	-	-	-	-	-	-	1	11	6	8	8	9	2	5	3	4	2	2	-	1	-	-	-	-	-	-
68.....	95	-	-	-	-	-	2	4	8	16	11	16	10	10	7	5	1	4	2	2	-	1	-	-	-	-	-	-
69.....	104	-	-	-	-	-	1	2	4	16	10	16	9	6	11	3	4	4	4	2	-	1	-	-	-	-	-	-
70.....	96	-	-	-	-	2	-	-	7	10	12	12	10	3	4	2	2	2	2	2	-	1	-	-	-	-	-	-
71.....	102	-	-	-	-	-	-	-	2	11	12	13	12	4	7	7	7	5	3	3	-	2	-	-	-	-	-	-
72.....	107	-	-	-	-	-	-	-	2	5	17	11	13	12	7	3	6	4	4	2	-	1	-	-	-	-	-	-
73.....	94	-	-	-	-	-	-	-	2	13	10	9	10	12	5	5	7	2	3	3	-	1	-	-	-	-	-	-
74.....	102	-	-	-	-	-	-	-	2	4	17	11	11	4	4	9	8	4	4	1	-	1	-	-	-	-	-	-
75.....	102	-	-	-	-	-	-	-	4	8	10	7	11	11	4	9	8	4	4	1	-	1	-	-	-	-	-	-
76.....	115	-	-	-	-	-	-	-	5	5	21	12	13	4	5	3	3	3	3	5	-	2	-	-	-	-	-	-
77.....	116	-	-	-	-	-	-	-	4	9	15	7	10	7	7	3	7	7	4	6	-	2	-	-	-	-	-	-
78.....	65	-	-	-	-	-	-	2	1	8	10	5	8	4	6	2	3	3	3	1	-	2	-	-	-	-	-	-

- Data not available.

TABLE C-5

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: CHEMISTRY, FEMALE

AGE AT PH.D. GRADUATION

38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70 OR OLDER
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: CHEMISTRY, MALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: CHEMISTRY, MALE

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Full Text Provided by ERIC

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: EARTH SCIENCE, FEMALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: EARTH SCIENCE, FEMALE

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TABLE C-8

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: EARTH SCIENCE, MALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																											
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
48	2	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
49	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
51	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
52	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
53	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
55	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
56	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
57	143	-	1	-	-	-	1	2	5	11	16	17	13	6	7	11	9	11	6	3	6	6	4	-	1	3	1	1	
58	145	-	-	-	-	-	-	-	5	7	15	12	18	10	13	11	8	7	5	8	3	5	5	4	2	4	1	-	
59	170	-	-	-	-	-	1	-	4	10	21	13	18	14	14	14	8	9	6	11	5	2	1	3	5	3	3	3	
60	182	-	-	-	-	-	-	2	2	13	16	14	21	28	15	20	9	4	3	3	5	4	5	3	2	3	4	4	
61	213	-	-	-	1	-	-	-	3	10	28	16	19	24	22	14	12	11	7	9	4	3	7	3	3	5	3	1	
62	196	-	-	-	-	-	-	-	5	14	19	15	15	16	25	20	18	6	10	4	5	4	6	2	2	3	2	1	
63	245	-	-	-	-	-	-	-	6	14	20	23	39	18	20	25	17	15	8	8	5	2	3	3	3	3	3	3	
64	244	-	-	-	-	-	-	-	2	8	13	23	31	21	20	18	10	19	14	8	14	6	4	2	2	3	3	3	
65	288	-	-	-	-	-	-	1	5	10	26	28	27	37	32	20	13	15	18	10	8	4	2	5	6	4	4	2	
66	299	-	-	-	-	-	-	-	4	9	33	45	24	29	27	16	23	15	18	16	10	8	6	6	6	6	6	6	
67	278	-	-	-	-	-	-	2	3	15	21	25	38	28	25	17	21	16	11	11	8	10	8	8	8	8	8	8	
68	350	-	-	-	-	-	-	-	2	16	27	44	40	52	30	20	20	13	18	12	15	10	5	3	3	3	3	3	
69	339	-	-	-	-	-	-	-	4	8	32	36	31	30	39	33	24	13	11	14	11	12	8	6	6	6	6	6	
70	356	-	-	-	-	-	-	-	1	15	42	30	31	39	27	23	29	15	13	12	12	14	9	6	6	6	6	6	
71	390	-	-	-	-	-	-	-	4	14	27	44	41	37	39	29	25	15	26	11	11	13	10	12	7	7	7	7	
72	450	-	-	-	-	-	-	-	1	16	33	41	59	62	32	39	27	23	17	20	19	16	6	6	6	6	6	6	
73	433	-	-	-	-	-	-	-	2	23	25	36	42	44	41	40	32	29	20	14	15	15	11	4	4	4	4	4	
74	410	-	-	-	-	-	-	-	6	19	37	31	38	43	36	40	22	24	16	14	12	10	6	6	6	6	6	6	
75	430	-	-	-	-	-	-	-	3	12	39	56	52	38	42	37	33	22	10	21	15	8	7	6	6	6	6	6	
76	423	-	-	-	-	-	-	-	2	6	29	49	60	52	48	25	36	28	11	14	16	10	6	6	6	6	6	6	
77	418	-	-	-	-	-	-	-	3	9	25	50	57	63	43	37	24	19	18	16	11	2	6	6	6	6	6	6	
78	193	-	-	-	-	-	-	-	1	4	17	23	21	17	22	19	14	15	7	10	4	2	4	4	4	4	4	4	

- Data not available.

TABLE C-8

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: EARTH SCIENCE, MALE

AGE AT PH.D. GRADUATION																																
38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70 OR OLDER
6	4	4	1	3	1	1	1	1	1	1	2	1	1	1	1	2	3	6	1	2	1	1	1	1	1	1	1	1	1	1	1	1
5	5	3	2	4	5	3	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4	7	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4	6	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
6	9	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
3	6	7	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
8	6	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
10	5	3	8	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
12	8	3	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
14	8	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
16	8	12	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
15	11	6	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
15	6	6	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
10	7	3	4	4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
2	4	4	2	4	4	2	2	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PHYSICAL SCIENCES (OTHER), FEMALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PHYSICAL SCIENCES (OTHER), FEMALE

77

TABLE C-10.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PHYSICAL SCIENCES (OTHER), MALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																											
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
49	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50	4	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
51	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
52	3	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
53	5	-	-	-	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
55	9	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
56	314	-	-	-	-	1	6	8	36	35	29	35	31	24	25	20	17	17	4	9	4	3	5	-	-	-	-	-	
57	347	-	-	-	-	-	14	30	52	51	32	29	27	28	18	22	8	4	7	7	6	1	5	3	2	1	1	1	
58	367	-	-	-	-	-	11	25	44	48	48	28	29	36	21	14	19	9	12	4	5	1	3	1	2	2	2	2	
59	367	-	-	-	-	-	10	26	47	48	36	32	30	28	27	17	13	15	6	8	5	1	3	1	2	2	2	2	
60	402	-	-	-	-	-	12	34	50	49	37	38	38	30	29	20	17	19	11	11	6	4	4	3	3	1	1	1	
61	465	-	-	-	-	1	16	31	52	62	52	44	36	36	29	20	12	13	8	14	11	5	5	3	3	1	4	4	
62	492	-	-	-	-	1	2	5	36	52	64	71	49	33	42	33	21	14	10	12	10	5	3	3	5	2	1	1	
63	579	-	-	-	1	-	22	55	77	81	58	51	35	37	27	29	20	16	10	12	8	7	3	3	6	2	2	2	
64	682	-	-	-	2	-	25	48	109	107	79	67	54	46	33	26	15	13	9	10	8	7	9	11	6	4	3	5	
65	731	-	-	-	-	-	26	65	97	146	84	73	48	56	26	31	19	15	11	10	8	8	9	11	2	4	4	3	
66	824	-	-	-	-	2	22	60	113	119	115	90	74	48	43	26	13	19	13	14	12	10	11	2	6	8	4	3	
67	912	1	-	-	-	4	13	67	124	153	114	100	68	57	49	29	25	13	14	16	8	7	6	6	3	7	3	3	
68	1E3	-	-	-	-	6	15	72	160	158	139	114	89	67	53	28	25	21	23	22	8	8	7	7	5	2	3	3	
69	1E3	-	-	-	-	3	26	49	148	189	141	125	68	82	54	47	41	23	17	18	21	10	5	5	3	4	3	3	
70	1E3	-	-	1	-	1	15	59		157	132	93	69	54	41	34	25	12	12	13	17	5	7	5	6	4	2	4	
71	1E3	-	-	-	-	1	31	58	105	141	150	155	111	88	57	44	38	30	23	16	20	13	8	7	7	4	3	2	
72	1E3	-	-	-	1	-	4	16	68	98	123	134	116	104	74	46	46	41	25	29	19	10	13	15	7	5	6	1	
73	1E3	1	-	-	-	-	16	46	124	114	107	96	104	69	69	48	34	22	14	17	17	9	9	2	6	6	2	4	
74	957	-	-	-	-	-	15	52	93	160	117	104	68	74	57	40	38	29	31	24	12	12	9	3	10	5	5	1	
75	971	-	-	-	-	-	12	32	79	96	123	91	91	91	61	48	37	33	27	19	21	10	11	9	3	6	3	5	
76	858	-	-	-	1	1	3	6	34	65	84	110	104	92	56	44	40	31	25	14	19	12	20	6	8	5	2	2	
77	797	-	-	-	-	1	3	2	16	32	53	56	49	60	39	21	17	18	14	9	7	9	5	3	3	4	1	4	
78	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

-- Data not available.

TABLE C-10

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PHYSICAL SCIENCES (OTHER), MALE

[illegible]

106 DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: ENGINEERING (ALL), FEMALE

Data not available.

DE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: ENGINEERING (ALL), FEMALE



ERIC
Full Text Provided by ERIC

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: BIOLOGICAL SCIENCE, FEMALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: BIOLOGICAL SCIENCE, FEMALE

91

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: BIOLOGICAL SCIENCE, MALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: BIOLOGICAL SCIENCE, MALE

92

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: AGRICULTURAL SCIENCE, FEMALE

• Data not available.

106 DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: AGRICULTURAL SCIENCE, FEMALE

77

AGE DISTRIBUTION OF MASTER'S HOLDERS AT PH.D. GRADUATION: AGRICULTURAL SCIENCE, MAJ

Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: AGRICULTURAL SCIENCE, MALE



ERIC
Full Text Provided by ERIC

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: SOCIAL SCIENCE, FEMALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: SOCIAL SCIENCE, FEMALE

35

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: SOCIAL SCIENCE, MALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: SOCIAL SCIENCE, MALE

ERIC
Full Text Provided by ERIC

THE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PSYCHOLOGY, FEMALE

Data not available.

DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PSYCHOLOGY, FEMALE

87

AGE DISTRIBUTION OF MASTER'S-DEGREE HOLDERS AT PH.D. GRADUATION: PSYCHOLOGY, MALE

- Data not available.

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: PSYCHOLOGY, MALE

AGE AT PH.D. GRADUATION									
38	39	40	41	42	43	44	45	46	47
10	13	5	6	7	2	6	2	1	2
20	15	10	10	11	6	5	3	1	2
20	17	5	9	7	3	2	3	4	3
16	17	10	11	9	3	7	4	2	3
13	18	15	8	11	7	4	6	4	3
17	18	8	8	14	5	8	6	4	3
21	16	14	9	11	4	4	4	1	2
21	15	22	10	9	5	4	6	3	2
18	15	22	8	8	8	8	6	4	2
18	17	16	11	9	12	7	7	8	3
18	15	12	18	12	11	10	7	6	3
13	14	16	10	10	10	12	7	6	3
20	7	26	15	14	13	13	7	6	3
20	32	21	13	12	16	8	7	8	3
23	21	20	21	15	12	11	9	8	3
30	18	27	19	11	10	11	11	7	2
32	20	17	16	20	17	11	7	9	2
30	21	17	16	9	8	8	7	7	2
24	20	23	12	15	10	10	10	10	3
23	22	14	18	16	11	13	12	10	3
29	17	17	13	13	13	9	2	10	3
18	12	14	7	5	9	5	10	3	2

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: NOT 3/E, FEMALE

[illegible]

Data not available.

TABLE C-21

PERCENTAGE DISTRIBUTION OF MASTER'S-DEGREE HOLDERS AT PH.D. GRADUATION: NOT S/E, FEMALE

DE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: NOT S/E, FEMALE

AGE AT PH.D. GRADUATION

[illegible]

TABLE C-22

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: NOT S/E, MALE

Year (19--)	Total	AGE AT PH.D. GRADUATION																											
		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
48	2E3	-	-	-	-	-	-	-	-	-	1	3	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
49	3E3	-	-	-	-	-	-	-	-	1	2	2	3	3	-	1	-	1	1	-	-	-	-	-	-	-	-	-	-
50	4E3	-	-	-	-	-	-	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
51	4E3	-	1	-	-	-	-	1	-	-	1	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
52	5E3	-	-	-	-	-	-	2	2	-	4	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
53	5E3	-	-	-	-	-	-	2	2	-	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
54	5E3	-	-	-	-	-	1	-	-	-	5	2	2	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	
55	5E3	-	-	-	-	-	-	4	-	3	-	1	5	4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	
56	5E3	-	-	-	-	-	-	-	-	-	6	6	6	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	
57	2E3	7	-	-	2	1	1	21	113	204	182	141	165	133	92	85	77	73	51	42	38	27	38	20	16	15	14	12	
58	2E3	6	-	-	3	3	5	25	89	188	176	178	146	141	132	101	95	85	54	57	57	43	45	31	22	26	20	24	
59	2E3	2	-	-	1	1	3	26	97	189	202	156	181	142	139	109	98	69	65	47	48	48	36	23	32	22	24	23	
60	2E3	5	-	-	1	1	5	24	114	227	242	192	166	175	134	136	98	90	67	68	61	47	41	39	30	22	20	23	
61	2E3	-	-	-	-	6	6	22	111	223	258	184	212	174	166	141	115	77	83	87	61	48	41	43	31	26	25	21	
62	3E3	1	-	-	1	1	8	36	136	299	312	218	198	194	196	151	138	110	93	69	74	55	46	40	36	27	23	17	
63	3E3	1	-	-	-	5	5	28	137	348	405	292	225	198	203	166	143	110	96	75	72	53	63	35	39	34	24	26	
64	3E3	1	-	-	-	5	5	30	157	419	462	357	264	219	198	200	160	144	107	101	76	65	53	50	39	28	36	29	
65	4E3	-	-	-	-	4	4	38	166	425	537	407	345	222	214	171	148	142	135	120	91	72	72	64	63	45	38	33	
66	4E3	-	-	-	-	11	11	57	236	541	687	524	364	265	207	225	157	164	124	133	112	81	81	74	61	56	33	38	
67	5E3	2	-	-	1	5	5	55	239	629	713	525	415	299	285	206	168	152	151	124	123	95	74	82	58	49	71	37	
68	5E3	-	-	-	-	6	6	35	236	770	878	634	459	382	309	236	202	184	139	131	122	111	103	84	74	72	59	44	
69	6E3	1	-	-	5	11	11	41	230	816	1E3	740	546	386	385	288	257	171	151	133	126	104	87	90	93	78	65	64	
70	7E3	-	-	-	-	8	8	48	218	806	1E3	1E3	617	482	365	324	270	217	186	145	123	123	104	92	85	72	81	66	
71	8E3	1	-	-	-	3	3	38	190	704	1E3	1E3	803	607	445	338	286	225	204	159	161	125	118	116	100	94	73	48	
72	7E3	-	-	-	-	9	9	36	231	621	912	952	831	682	505	393	338	226	202	199	152	122	126	83	92	72	69	65	
73	7E3	-	-	-	-	10	10	29	178	652	767	703	664	627	550	410	286	277	216	176	155	143	106	84	97	64	68	50	
74	7E3	-	-	-	-	4	4	20	155	558	892	830	588	554	508	482	339	253	170	169	164	125	100	103	87	57	93	55	
75	7E3	-	-	-	-	3	3	23	139	524	823	977	768	547	436	410	329	241	195	156	146	127	115	92	93	76	65	52	
76	7E3	-	-	-	-	8	8	25	144	501	793	778	749	639	446	387	316	274	227	163	130	127	86	103	85	57	65	55	
77	7E3	-	-	-	-	3	3	21	116	453	719	755	640	634	547	335	336	246	251	196	123	125	96	88	94	56	50	63	
78	3E3	-	-	-	3	3	9	44	170	368	380	361	300	314	214	179	141	136	114	93	67	52	39	45	22	35	20	22	

- Data not available.

TABLE C-22

AGE DISTRIBUTION OF MASTER'S-HOLDERS AT PH.D. GRADUATION: NOT S/E, MALE

AGE AT PH.D. GRADUATION																																
38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70 OR OLDER
-	-	-	-	-	-	-	-	-	-	-	-	4E3	4E3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
27	38	20	16	15	14	12	8	8	6	3	1	3	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
43	45	42	26	20	24	12	21	15	13	7	7	5	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
48	36	23	22	24	23	13	13	16	7	7	7	12	4	7	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
47	41	30	26	20	23	13	16	11	13	5	2	6	4	4	5	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
48	41	30	26	20	23	13	16	11	13	5	2	6	4	4	5	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
55	46	48	38	27	23	17	13	18	17	13	8	10	5	5	6	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
55	63	35	39	34	24	26	23	15	9	15	14	10	5	5	6	10	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
65	93	50	39	28	38	29	20	13	15	12	15	5	9	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
72	72	64	63	45	38	33	22	21	21	16	19	14	10	11	7	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
81	81	74	61	36	33	38	34	17	17	21	16	9	11	10	13	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
95	74	82	58	49	71	37	39	32	25	20	13	13	8	5	9	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
111	103	84	79	72	59	44	40	30	28	24	13	13	8	9	11	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
104	87	90	93	78	65	64	51	19	25	24	16	14	20	5	13	8	14	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
123	104	92	85	72	81	66	50	35	32	29	27	22	21	21	13	8	5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
125	118	116	100	94	73	48	51	39	30	28	18	19	10	12	12	7	11	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
122	126	83	92	72	69	65	50	31	29	25	23	12	14	11	11	11	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
143	106	84	97	64	68	50	51	40	39	36	26	27	17	19	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
125	100	103	87	57	53	55	37	39	33	34	25	20	19	17	18	18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
127	115	92	93	76	65	52	43	49	53	40	38	23	19	24	17	12	10	12	6	6	6	6	6	6	6	6	6	6	6	6	6	6
127	86	103	85	57	65	55	44	58	27	30	24	23	18	17	12	13	10	12	6	6	6	6	6	6	6	6	6	6	6	6	6	6
125	96	88	94	56	50	65	37	40	49	31	17	16	21	18	16	7	12	11	7	7	7	7	7	7	7	7	7	7	7	7	7	7
67	52	39	45	22	35	20	24	16	23	26	11	8	15	11	11	8	9	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4

appendix d

DETAILED STATISTICAL TABLES

MORTALITY RATES

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TABLE D-2 MODIFIED RATES FOR COLLEGE EDUCATED WHITES..	87

TABLE D-1. - NATIONAL CENTER FOR HEALTH STATISTICS: MORTALITY RATES FOR WHITES

AGE	FEMALES					MALES				
	1930 -1939	1940 -1949	1950 -1959	1960 -1969	1970 -1977	1930 -1939	1940 -1949	1950 -1959	1960 -1969	1970 -1977
19	.02	.01	.01	.01	.01	.02	.02	.02	.02	.02
20	.02	.01	.01	.01	.01	.03	.02	.02	.02	.02
21	.02	.01	.01	.01	.01	.03	.02	.02	.02	.02
22	.02	.01	.01	.01	.01	.03	.02	.02	.02	.02
23	.03	.01	.01	.01	.01	.03	.02	.02	.02	.02
24	.03	.01	.01	.01	.01	.03	.02	.02	.02	.02
25	.03	.01	.01	.01	.01	.03	.02	.02	.02	.02
26	.03	.01	.01	.01	.01	.03	.02	.02	.02	.02
27	.03	.01	.01	.01	.01	.03	.02	.02	.02	.02
28	.03	.02	.01	.01	.01	.03	.02	.02	.02	.02
29	.03	.02	.01	.01	.01	.03	.02	.02	.02	.02
30	.03	.02	.01	.01	.01	.03	.02	.02	.02	.02
31	.03	.02	.01	.01	.01	.04	.02	.02	.02	.02
32	.03	.02	.01	.01	.01	.04	.03	.02	.02	.02
33	.03	.02	.01	.01	.01	.04	.03	.02	.02	.02
34	.03	.02	.01	.01	.01	.04	.03	.02	.02	.02
35	.04	.02	.01	.01	.01	.04	.03	.02	.02	.02
36	.04	.02	.02	.01	.01	.05	.03	.02	.02	.02
37	.04	.02	.02	.01	.01	.05	.04	.03	.03	.03
38	.04	.03	.02	.02	.02	.05	.04	.03	.03	.03
39	.04	.03	.02	.02	.02	.06	.04	.03	.03	.03
40	.04	.03	.02	.02	.02	.06	.05	.04	.03	.03
41	.05	.03	.02	.02	.02	.06	.05	.04	.04	.04
42	.05	.04	.03	.02	.02	.07	.05	.04	.04	.04
43	.05	.04	.03	.03	.03	.07	.06	.05	.05	.05
44	.06	.04	.03	.03	.03	.08	.06	.05	.05	.05
45	.06	.04	.03	.03	.03	.08	.07	.06	.06	.06
46	.07	.05	.04	.03	.03	.09	.08	.07	.06	.06
47	.07	.05	.04	.04	.04	.10	.08	.07	.07	.07
48	.07	.06	.04	.04	.04	.11	.09	.08	.08	.07
49	.08	.06	.05	.04	.04	.11	.10	.09	.08	.08
50	.09	.07	.05	.05	.05	.12	.11	.10	.09	.09
51	.09	.07	.06	.05	.05	.13	.12	.11	.10	.10
52	.10	.08	.06	.06	.06	.14	.13	.12	.11	.11
53	.11	.08	.07	.06	.06	.15	.14	.13	.12	.12
54	.12	.09	.07	.06	.06	.16	.15	.14	.13	.13
55	.13	.10	.08	.07	.07	.18	.17	.15	.15	.15
56	.14	.11	.08	.07	.08	.19	.18	.17	.16	.16
57	.15	.12	.09	.08	.08	.21	.20	.18	.17	.17
58	.16	.13	.10	.09	.09	.22	.21	.20	.19	.19
59	.18	.14	.11	.10	.10	.24	.23	.21	.21	.21
60	.19	.15	.12	.11	.10	.26	.25	.23	.23	.23
61	.20	.17	.13	.12	.11	.28	.27	.25	.25	.25
62	.22	.18	.15	.13	.12	.30	.29	.27	.27	.27
63	.24	.20	.16	.14	.13	.32	.31	.29	.29	.29
64	.26	.22	.17	.15	.14	.35	.33	.32	.31	.31
65	.29	.24	.19	.17	.16	.38	.36	.34	.34	.34
66	.32	.26	.21	.18	.17	.41	.38	.37	.37	.37
67	.35	.28	.23	.20	.19	.44	.41	.40	.40	.40
68	.38	.31	.25	.22	.21	.48	.45	.43	.43	.43
69	.41	.35	.28	.24	.23	.52	.48	.46	.46	.46
70	.45	.38	.31	.27	.25	.56	.52	.49	.49	.49

TABLE D-2. - NATIONAL MORTALITY RATES FOR COLLEGE EDUCATED WHITES

AGE	FEMALES					MALES				
	1930 -1939	1940 -1949	1950 -1959	1960 -1969	1970 -1977	1930 -1939	1940 -1949	1950 -1959	1960 -1969	1970 -1977
19	.02	.01	.00	.00	.00	.02	.01	.01	.01	.01
20	.02	.01	.01	.00	.00	.02	.01	.01	.01	.01
21	.02	.01	.01	.00	.01	.02	.01	.01	.01	.01
22	.02	.01	.01	.00	.01	.02	.01	.01	.01	.01
23	.02	.01	.01	.00	.01	.02	.01	.01	.01	.01
24	.02	.01	.01	.01	.01	.02	.01	.01	.01	.01
25	.02	.01	.01	.01	.01	.02	.01	.01	.01	.01
26	.02	.01	.01	.01	.01	.02	.01	.01	.01	.01
27	.02	.01	.01	.01	.01	.02	.01	.01	.01	.01
28	.02	.01	.01	.01	.01	.02	.02	.01	.01	.01
29	.02	.01	.01	.01	.01	.02	.02	.01	.01	.01
30	.02	.01	.01	.01	.01	.02	.02	.01	.01	.01
31	.02	.01	.01	.01	.01	.03	.02	.01	.01	.01
32	.02	.01	.01	.01	.01	.03	.02	.01	.01	.01
33	.03	.02	.01	.01	.01	.03	.02	.01	.01	.01
34	.03	.02	.01	.01	.01	.03	.02	.01	.01	.01
35	.03	.02	.01	.01	.01	.03	.02	.02	.01	.02
36	.03	.02	.01	.01	.01	.03	.02	.02	.02	.02
37	.03	.02	.01	.01	.01	.03	.02	.02	.02	.02
38	.03	.02	.01	.01	.01	.04	.03	.02	.02	.02
39	.03	.02	.02	.01	.01	.04	.03	.02	.02	.02
40	.04	.02	.02	.01	.02	.04	.03	.03	.02	.02
41	.04	.03	.02	.02	.02	.04	.03	.03	.03	.03
42	.04	.03	.02	.02	.02	.05	.04	.03	.03	.03
43	.04	.03	.02	.02	.02	.05	.04	.03	.03	.03
44	.04	.03	.02	.02	.02	.06	.04	.04	.04	.04
45	.05	.03	.03	.02	.02	.06	.05	.04	.04	.04
46	.05	.04	.03	.03	.03	.06	.05	.05	.04	.04
47	.05	.04	.03	.03	.03	.07	.06	.05	.05	.05
48	.06	.04	.03	.03	.03	.07	.06	.06	.05	.05
49	.06	.05	.04	.03	.03	.08	.07	.06	.06	.06
50	.07	.05	.04	.04	.04	.09	.08	.07	.06	.06
51	.07	.06	.04	.04	.04	.09	.08	.08	.07	.07
52	.08	.06	.05	.04	.04	.10	.09	.08	.08	.08
53	.08	.07	.05	.05	.05	.11	.10	.09	.09	.08
54	.09	.07	.06	.05	.05	.12	.11	.10	.09	.09
55	.10	.08	.06	.05	.05	.12	.12	.11	.10	.10
56	.11	.08	.07	.06	.06	.13	.13	.12	.11	.11
57	.11	.09	.07	.06	.06	.15	.14	.13	.12	.12
58	.12	.10	.08	.07	.07	.16	.15	.14	.13	.13
59	.14	.11	.09	.08	.07	.17	.16	.15	.15	.15
60	.15	.12	.09	.08	.08	.18	.17	.16	.16	.16
61	.16	.13	.10	.09	.09	.20	.19	.18	.17	.17
62	.17	.14	.11	.10	.09	.21	.20	.19	.19	.19
63	.19	.15	.13	.11	.10	.23	.22	.21	.20	.20
64	.20	.17	.14	.12	.11	.24	.23	.22	.22	.22
65	.20	.16	.13	.12	.11	.37	.35	.33	.33	.33
66	.22	.18	.15	.13	.12	.40	.38	.36	.36	.36
67	.24	.20	.16	.14	.13	.43	.41	.39	.39	.39
68	.27	.22	.18	.15	.15	.47	.44	.42	.42	.42
69	.29	.24	.20	.17	.16	.51	.47	.45	.45	.45
70	.32	.27	.22	.19	.18	.55	.51	.49	.48	.48

appendix e

DETAILED STATISTICAL TABLES

AGE DISTRIBUTION

TABLE E-1 - AGE DISTRIBUTION OF SCIENCE & ENGINEERING MASTER'S GRADUATES

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TABLE E-1. - AGE DISTRIBUTION OF SCIENCE & ENGINEERING MASTER'S GRADUATES

	1950'S												1960'S												1970'S																					
	% IN GROUP												% IN GROUP												% IN GROUP																					
	From Age	15	20	25	30	35	40	45	50	55	60		15	20	25	30	35	40	45	50	55	60		15	20	25	30	35	40	45	50	55	60		15	20	25	30	35	40	45	50	55	60		
	To Age	19	24	29	34	39	44	49	54	59	64		19	24	29	34	39	44	49	54	59	64		19	24	29	34	39	44	49	54	59	64		19	24	29	34	39	44	49	54	59	64		
ENGINEERING (ALL)																																														
MALE		0	40	44	12	3	0	0	0	1	0		0	42	46	9	2	1	0	0	0	0		0	31	38	17	7	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FEMALE						xxx											xxx								0	42	36	10	5	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MECHANICAL ENGINEERING																																														
MALE						xxxxx											xxxxx								0	31	39	15	9	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FEMALE						xxxxx											xxxxx								0	16	22	22	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CIVIL ENGINEERING																																														
MALE						xxxxx											xxxxx								0	18	48	16	7	9	0	0	0	0	2											
FEMALE						xxxxx											xxxxx								0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ELECTRICAL-ELECTRONIC ENGINEERING																																														
MALE						xxxxx											xxxxx								0	33	39	16	5	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FEMALE						xxxxx											xxxxx								0	25	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CIVIL ENGINEERING																																														
MALE						xxxxx											xxxxx								0	32	39	19	5	2	1	1	0	0												
FEMALE						xxxxx											xxxxx								0	34	23	14	6	10	10	3	0	0												
CHEMICAL ENGINEERING																																														
MALE						xxxxx											xxxxx								0	34	44	15	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FEMALE						xxxxx											xxxxx								0	90	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER ENGINEERING																																														
MALE						xxxxx											xxxxx								0	28	32	20	11	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FEMALE						xxxxx											xxxxx								0	42	50	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
INTERDISCIPLINARY SCIENCES																																														
MALE		0	27	38	11	3	1	19	1	0	0		0	36	47	11	3	1	0	0	0	0		0	30	45	14	5	2	1	1	0	0													
FEMALE						xxx											xxx								0	29	38	12	7	5	3	2	1	0												

xxDATA INSUFFICIENT FOR THIS PERIOD, USE LATER PERIOD.
 xxxDATA NOT DISAGGREGATED AT THIS LEVEL

TABLE E-1. - AGE DISTRIBUTION OF SCIENCE & ENGINEERING MASTER'S GRADUATES - CON.

	1950'S												1960'S												1970'S											
	% IN GROUP												% IN GROUP												% IN GROUP											
	From Age	15	20	25	30	35	40	45	50	55	60		15	20	25	30	35	40	45	50	55	60		15	20	25	30	35	40	45	50	55	60			
	To Age	19	24	29	34	39	44	49	54	59	64		19	24	29	34	39	44	49	54	59	64		19	24	29	34	39	44	49	54	59	64			
MATHEMATICS-STATISTICS																																				
MALE		0	45	31	13	9	1	0	0	0	0		1	49	39	8	2	0	0	0	1	0		0	41	42	10	3	2	2	0	0				
FEMALE						MMM												MMM							0	47	37	9	4	5	0	2	0			
COMPUTER & INFORMATION SCIENCES																																				
MALE						MMM												MMM							0	26	47	17	5	2	3	0	0			
FEMALE						MMM												MMM							0	28	43	16	8	0	0	4	0			
BIOLOGICAL & AGRICULTURAL SCIENCES																																				
MALE		0	27	52	15	4	1	0	1	1	0		0	28	54	14	4	1	0	1	0	0		0	25	53	16	2	2	1	0	0				
FEMALE						MMM												MMM							0	33	49	11	4	2	0	0	0			
AGRICULTURAL SCIENCES																																				
MALE		0	23	54	17	4	1	0	1	1	0		0	26	63	15	4	1	0	0	0	0		0	25	50	16	3	3	1	0	0				
FEMALE						MMM												MMM							0	37	47	14	0	3	0	0	0			
BIOLOGICAL SCIENCES																																				
MALE		0	31	51	13	3	1	0	1	0	0		0	29	54	13	3	1	0	0	0	0		0	25	56	15	1	1	0	0	0				
FEMALE						MMM												MMM							0	28	50	8	7	0	0	0	0			
PSYCHOLOGY																																				
MALE		0	30	50	13	4	1	0	1	0	0		0	34	50	11	3	1	0	0	0	0		0	27	51	12	5	1	1	1	0				
FEMALE						MMM												MMM							0	27	33	16	8	7	4	3	0			
SOCIAL SCIENCES																																				
MALE		0	29	46	17	0	1	1	0	0	0		0	32	49	12	4	1	1	0	0	0		0	29	49	11	6	3	2	1	0				
FEMALE																		MMM							0	27	32	13	11	4	5	2	0			
PHYSICS																																				
MALE		0	52	37	0	0	0	0	1	0	0		0	50	41	6	1	0	0	0	0	0		0	41	39	13	3	1	0	0	0				
FEMALE						MMM												MMM							0	49	40	0	11	0	0	0	0			
EARTH SCIENCES																																				
MALE		0	33	53	11	3	0	0	1	1	0		0	30	55	11	2	1	0	0	0	0		0	30	53	11	3	0	2	0	0				
FEMALE						MMM												MMM							0	33	62	1	0	0	3	0	0			
CHEMISTRY																																				
MALE		0	43	41	8	2	0	0	1	1	0		0	40	49	8	2	0	0	0	0	0		0	41	49	6	3	0	0	0	0				
FEMALE						MMM												MMM							0	29	50	7	6	5	0	0	2			
OTHER PHYSICAL SCIENCES																																				
MALE						MMM												MMM							0	16	41	18	19	1	4	0	0			
FEMALE						MMM												MMM							0	22	56	15	8	0	0	0	0			

MMM DATA INSUFFICIENT FOR THIS PERIOD, USE LATER PERIOD.

other science resources publications

Science Resources Studies Highlights

	NSF No.	Price		NSF No.	Price
R&D Funds					
"R&D Expenditures Increased 3% in Real Terms at Universities and Colleges in FY 1979"	81-304	—	Characteristics of Doctoral Scientists and Engineers in the United States, 1979	80-323	—
"Federal Academic Science Support Rose by 13% in FY 1979"	81-303	—	Academic Science: Graduate Enrollment and Support, Fall 1979	80-321	—
"National R&D Spending Expected to Reach \$67 Billion in 1981"	80-310	—	Employment of Scientists, Engineers, and Technicians in Manufacturing Industries, 1977	80-306	—
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